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Ram Wins an Unprecedented Three-Peat

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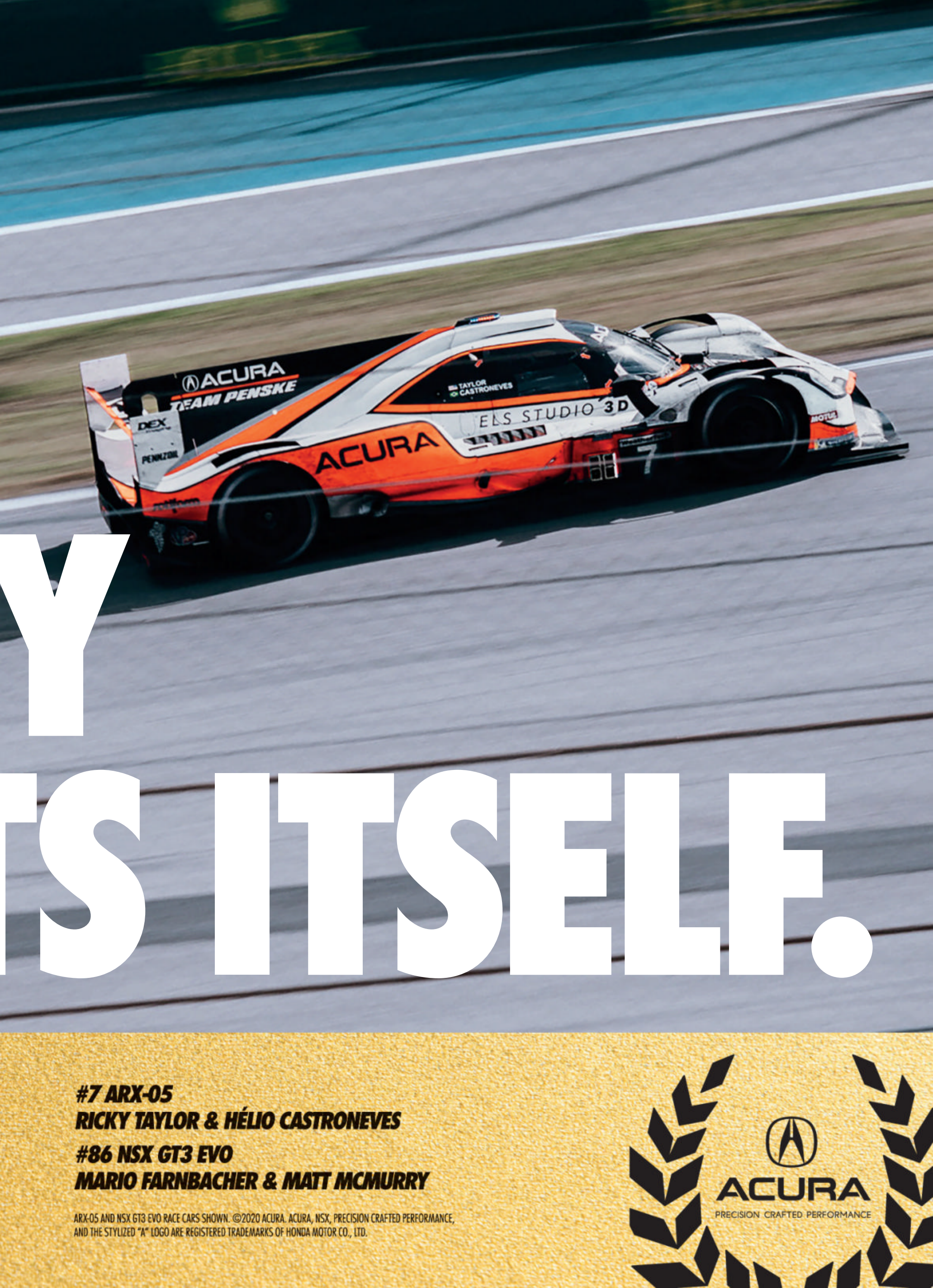


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ON THE COVER
Truck of the Year
Ram wins an
unprecedented
three-peat.
Photograph by
Renz Dimaandal.



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EST. 1949
VOL. 73 NO.2

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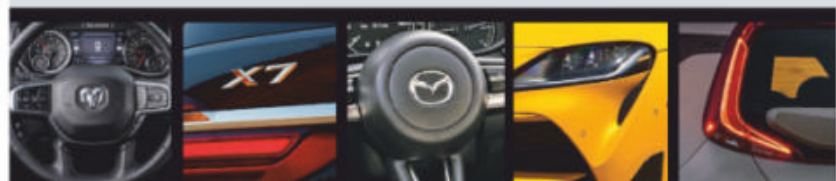
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Three-peat: Ram's astonishing dominance



Life is awash in sports metaphors. A struggling automaker might be behind the eight ball and throw a Hail Mary with a desperate product launch—which can result in a home run or getting put down for the count. (And yes, I know I'm mixing billiards, football, baseball, and boxing metaphors here.) These clichés are thrown about with such abandon that people may not even realize that sport is being referenced anymore.

But there is one sports reference that never loses its impact: three-peat.

Only true dynasties can declare such a trio of title triumphs: The Shaq and Kobe L.A. Lakers, the Lombardi-era Green Bay Packers, and the Air Jordan Chicago Bulls (who did it twice). Not even the Ruth and Gehrig New York Yankees took three in a row.

To win the title three times in a row is a feat of legend.

With more than 30 automotive brands manufacturing more than 300 nameplates for North America, the chances of creating a streak of products better than anyone else's new releases is a blend of art, science, diligence, stamina, and a touch of black magic.

In the 71 years of *MotorTrend* Car of the Year, only Chevrolet has ever won the Golden Calipers in back-to-back years (with the 1997 Malibu and 1998 Corvette, then again with the 2016 Camaro and 2017 Bolt EV). There has only been one repeat SUV of the Year automaker: Subaru, with the 2009 Forester and 2010 Outback.

For Truck of the Year, a handful of automakers have won back-to-back honors: Chevy in 1995 and 1996 (Blazer and Tahoe), 2001 and 2002 (Silverado HD and Avalanche), and 2015 and 2016 (Colorado and Colorado Duramax); Ford in 2017 and 2018 (Super Duty and F-150); and Ram in 2013 and 2014 (1500 and 1500 EcoDiesel).

But 2021 marks the first time an automotive brand

has taken the Golden Calipers three consecutive years in any of our competitions.

With the 2019 Ram 1500, 2020 Ram Heavy Duty, and 2021 Ram 1500 TRX, FCA's truck brand has proven a dominance in the light-duty and heavy-duty pickup realms that is downright astonishing.

It all starts with a stellar platform—including the proof that a rear coil- or air-sprung suspension doesn't detract from a truck's ability to do trucky things while delivering a plush ride. Install the industry's first standard hybrid powertrain (a mild hybrid 48-volt motor-generator system). Then give your designers the budget and flexibility to make the interior of a pickup more akin to a luxury vehicle than a work truck—because even gardeners and plumbers like to feel rewarded after a hard day at the office. Take these and dozens of other smart touches—RamBox, RamBins, reclining rear seats, and now, the installation of the insane 702-hp Hellcat engine, which should make F-150 Raptors quake in fear—and you have created a truck worthy of this legendary status.

Customers are noticing, too. The light-duty pickup sales race used to be a two-horse race: F-150 and Silverado, with Ram a far-distant third. And although it likely will take a comet hitting Earth to dethrone Ford from the top sales spot, the Ram 1500 stole the Silverado's lunch money in 2019, selling 633,694 units to Chevy's 575,600. No need for a recount there. And it looks like a neck-and-neck race for the silver medal again this year.

Seen another way, while Silverado sales have stayed stable in the 575,000 to 600,000 range since 2015 as overall pickup sales have increased, Ram sales have grown from 450K to last year's record in the same time period. That's a different form of victory: conquest. ■

Ram's Big Three: the 1500, 1500 TRX, and Heavy Duty. Can they make it four titles in a row?

One sports reference never loses its impact: the three-peat. It's a feat of legend.

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Trend 2.21

2022 Honda Civic Prototype

The 11th Gen Goes Upscale

In a time when the future of the sedan is in doubt, the 2022 Honda Civic doubles down with a more mature design, a promise of additional features, and all the sporty charm enthusiasts love.

For the uninitiated, Honda typically produces prototypes such as this rather than concept cars. Rather than an unrestrained vision of the future, they're essentially the final production cars with a few flourishes that'll get toned down a bit by the time you can actually buy one. This new

Civic prototype is no different. What you see here is basically what'll be at the dealer this spring, though Honda says it incorporates exclusive styling cues from both the sedan and hatchback body styles.

At first look, it strikes you as a more mature and fully realized evolution of the previous generation's styling. A little softer, a little cleaner, and a little sleeker, it comes across as less boy racer and more working professional.

It hasn't lost its sporty stance, though. The hood has been lowered an inch at the base of the windshield, and the A-pillars and windshield have been pushed back 2 inches to make the car look longer and lower. A slightly lower C-pillar gives the roof a racier rake, and a standard stamped-in ducktail spoiler on the trunk completes the look. There's a distinct note of Audi sedan in

FIRST LOOK



the rear, and that's a compliment. The LED headlights and taillights are likely to be standard as Honda chases an IIHS Top Safety Pick+ award. Designers also moved the mirrors down to the doors to make it easier to see around the thin A-pillars, though this doesn't count toward safety award criteria.

As a prototype, the Civic has no interior, so Honda had to bring us a sketch (above) so we could see what they have planned for the new model.





Looks aside, the car is nearly the same size as before. The wheelbase and overall length have been stretched slightly, but the overall width and height are unchanged despite the styling differences. The curb weight and interior dimensions are likewise about the same, though the rear seat is reclined slightly to duck under the sloping roof.

The front seats are where the real action is. Although Honda has only released a sketch, it's a night-and-day difference. Gone is the young, racy vibe, replaced with a far sleeker and more sophisticated design. Of particular note is the Deco-like honeycomb mesh running across the center of the dashboard, a design focal point that cleverly obscures the air vents. Above



Every Honda Civic sedan will feature this sporty, stamped-in lip spoiler on the trunk.

it, a freestanding infotainment screen retains its volume knob and measures 9.0 inches. It's complemented by the first all-digital dash Honda has offered in a Civic. Honda promises a raft of technology, as well, including upgrades to the standard HondaSense suite of active and passive driver aids, but details weren't forthcoming.

Beneath the skin, Honda people describe the platform as an evolution of the current car rather than a rethink.

The chassis has been stiffened, and

Honda promises suspension upgrades that will come across as more "sophisticated sporty" than the current car's "playful sporty," in the words of one product planner.

Whatever kind of sportiness it is, it'll be best represented in hatchback form. The coupe body style is dead as buyers have shifted to the hatchback, particularly those looking for sporty models. As such, the hatchback will continue to offer a manual transmission while the sedan, with the notable exception of the Si model, will only come with an automatic. The Si is special, and it's long been a sedan, so it'll be the only sedan with a stick shift. Similarly, the Type R will continue



to be a hatchback with a manual transmission. No model or body style will offer all-wheel drive.

Don't expect any hybrids, either. The Honda Insight is effectively a Civic hybrid, and it will continue as a separate nameplate for the foreseeable future. Other than that, Honda won't talk about what's under the hood yet except to say it'll be more powerful and more efficient. We expect an upgraded version of the current 1.5-liter turbocharged four-cylinder from the current car to be the base engine, and the Si will likely continue to get a high-output version of the same engine. Similarly, we think the Type R will get an upgraded 2.0-liter turbo like the current car. An automatic continuously variable transmission will probably still be standard, with a six-speed manual for the sporty models.

Likewise, Honda won't talk about pricing except to say it won't change much. The current car starts at \$22,005. We'll know more about that, the powertrains, and the tech when Honda reveals the production-ready 2022 Civic ahead of its late spring on-sale date.



The removable roof panels can be stored in the frunk (right) in a set of standard vinyl storage bags.



PHOTOGRAPHS POVI PULLINEN,
BRANDON LIM



FIRST LOOK

2022 GMC Hummer EV Pickup

An Off-Road Icon Reborn

General Motors has pulled the wraps off the 2022 GMC Hummer EV, an electric full-size pickup with crazy power, a removable top, moonscape-themed details, and a price of \$112,595 for the high-end Edition 1 trim that's set to go on sale before the end of 2021.

Although GMC will offer the Hummer EV in a number of trims, the brand will initially sell the vehicle solely

in Edition 1 guise. As such, all 2022 Hummer EVs are painted white with a black-painted upper. As the highest performing variant of the Hummer EV, the Edition 1 comes standard with three electric motors, two of which power the rear axle; the third provides grunt to the front. As such, the truck features standard four-wheel drive and a torque-vectoring rear end—a setup GMC dubs e-4WD.

The brand claims the truck's powertrain generates more than 1,000 hp and is capable of sprinting to 60 mph in 3.0 seconds.

The Edition 1 will continue into the 2023 model year, at which point it will be joined by the 3X trim, due to go on sale before the end of 2022. Like the six-figure Edition 1, the Hummer EV3X has three motors and torque vectoring. However, it starts at a more reasonable (well, relatively speaking) price of \$99,995. In

2023, GMC plans to add the two-motor 2X trim, which starts at \$89,995. The base Hummer EV2 goes on sale in 2024 with a starting price of \$79,995. All subsequent variants will offer a full rainbow of colors, but all Hummer EV trims sport black paint above the beltline as part of the model's signature look.

Predictably, the Edition 1 comes well equipped and includes off-road-oriented kit such as 18-inch wheels wrapped in 35-inch Goodyear Wrangler tires (it can also accommodate 37-inch rubber), rock rails, an adaptive air suspension, four-wheel steering, and special badging.

The Hummer EV has a projected driving range of more than 350 miles on a full charge, per GM. It works with either 400-volt or 800-volt DC fast chargers and is reportedly able to add 100 miles of range in 10 minutes. The exact charge time from depletion is not





known, in part because GM has yet to build vehicles for real-world testing.

With its adaptive air suspension, the Hummer EV offers an Extract mode that lifts the suspension height by approximately 6 inches, which allows the truck to clear hurdles such as boulders (the Hummer EV boasts a vertical wall climb of more than 18 inches) or ford up to 32 inches of water. Don't get too excited, though, as Extract mode will not be available until some time after launch. Additionally, it will offer GM's Super Cruise highway driving assistance system.

In Terrain mode, with approximately 13 inches of suspension travel front and rear, 15.9 inches of ground clearance, and approach and departure angles of 44 and 34 degrees, respectively, the Hummer EV promises to live up to the off-tarmac performance expectations associated with the Hummer nameplate. (Extract mode increases the approach and departure angles to 49.7 and 38.4 degrees.)

Four of the Hummer EV's 18 cameras are positioned underneath it and act as virtual spotters. Furthermore, the live feed to the dash-mounted screen also shows the position of the truck's wheels. A "wash" function ensures the cameras remain clear of dirt and mud,



and each is packaged in such a way so as to avoid getting damaged by tough terrain.

Additional off-road-friendly items include a four-wheel steering function, which allows the rear wheels to turn by up to 10 degrees. The rear wheels can even steer at the same angle as the fronts at low speeds, enabling the CrabWalk function, which GMC thinks will help Hummer EV drivers scuttle over off-road obstacles.

Alongside the aforementioned Terrain and Extract drive modes, the Hummer EV also offers more typical Tour, Off-Road, and Tow-Haul settings. There's also an Adrenaline submode, otherwise known as launch control, which includes a theatrical

Watts to Freedom (WTF) experience. It primes the driver and passengers for the Hummer EV's epic acceleration with graphics, sound effects, and seat vibrations as the truck's air suspension lowers its body and the electronics condition the powertrain and battery pack for optimal performance.

Inside, faux leather covers the seats and steering wheel—a decision made to promote sustainability and avoid the use of animal hides. Additionally, a number of space-themed Easter eggs dot the Edition 1's cabin, including floors grained to look like the surface of the moon, the moon's Sea of Tranquility etched into the speaker grilles,



and more. Each is a nod to the fact that the Hummer EV was deemed a "moonshot" given the vehicle's short development time—half the usual time of a typical GM product.

Above, the Infinity roof comprises four removable roof panels, as well as associated bars that connect the panels together. With the panels and bars removed, the Hummer EV offers a convertible-style open-air experience. The truck's rear window drops into the body to bring even more fresh air into the cabin.

Although the Edition 1 also comes standard with a power rear tonneau cover, lesser models will feature a cheaper vinyl unit. As expected of a GMC truck, the Hummer EV includes the brand's six-position MultiPro tailgate.

Unfortunately, GMC has yet to release payload or towing figures. **Alisa Priddle**



The 13.4-inch dash-mounted touchscreen infotainment display offers three partitions of customizable information.

Intake

FIRST DRIVE

2020 Land Rover Defender 110 D240



There is no diesel-powered Defender in the U.S. lineup, so the Land Rover Defender 110 D240 is forbidden fruit for Americans. It's also a rare beast: You can't order one anymore, even in its home market.

After less than a year on the market, the Defender's 2.0-liter turbodiesel I-4 powertrain—available in both 197-hp and 237-hp tune—has been replaced by a new 3.0-liter twin-turbodiesel mild hybrid inline-six tuned to deliver 197 hp, 247 hp, or 296 hp, depending on how much you want to spend. Until it hits the market, though, the Defender 110 D240 is all we have to answer the question: Does a diesel engine make the new Defender even more desirable?

Torque and fuel efficiency are a diesel engine's strong points, and both are desirable characteristics in an off-road-capable SUV weighing more than 5,100 pounds. But there are some downsides, too.

In D240 spec, the diesel delivers 237 hp at 4,000 rpm and 317 lb-ft of torque

Is the Diesel More Desirable?



at 1,400 rpm. That torque peak is almost midrange in a low-revving diesel, which is why our Gondwana Stone 110 D240 S felt a little leisurely pulling away from a standstill. Land Rover estimates a 0–60 time of 8.7 seconds.

Although the D240 will happily cruise the freeway at 80 to 85 mph, the gasoline 2.0-liter turbocharged I-4 in the Defender 110 P300 delivers better performance. It boasts 59 more horses than the little diesel—296 hp at 5,500 rpm—yet, crucially, produces just 7 percent less torque—295 lb-ft from as little as 1,500 rpm. According to Land Rover, the 110 P300 is a whole second quicker to 60 mph than the D240-powered model.

Where the D240 powertrain makes its strongest case over the P300 is in terms of efficiency. EPA numbers show the Defender 110 P300 returning 17/20/18 mpg city/highway/combined. Over a 530-mile stint that included mooching along narrow country lanes in Wales at 20 to 30 mph, extended freeway cruising at 70 to 80 mph, and grinding through stop-start London traffic, the D240 S returned an average of 24 mpg.

Does a diesel engine make the new Defender more desirable? On the basis

of our time in the 110 D240, no. Sure, it's more economical than the gas-powered P300. But it's significantly slower.

The new six-cylinder diesel might change that verdict, though. In top-spec Defender D300 tune it produces 296 horsepower at 4,000 rpm and—more important—a meaty 480 lb-ft of torque from 1,500 to 2,500 rpm. That's 24 percent less power than the 3.0-liter gasoline mild hybrid super- and turbocharged inline-six that currently powers top-spec Defender P400s in the U.S. but 18 percent more torque.

Land Rover's own performance figures claim the D300 engine delivers a 0–60 time of 6.7 seconds in the 110, neatly splitting the 110 P400's 5.8 seconds and the 110 P300's 7.7 seconds. And, according to the European WLTP combined fuel consumption numbers, it does that while being 28 percent and 33 percent more fuel efficient, respectively, than either gas engine. **Angus MacKenzie**

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Intake

2021 Ford Bronco Sport

This Kid's Going Places

FIRST DRIVE



The Badlands trim rides higher and has unique bodywork designed to give it better clearance off-road than standard Bronco Sports, and we put it to use.

Two hours into wheeling the 2021 Ford Bronco Sport up a reasonably tough trail and already seriously impressed with what the little rig could do, I still wouldn't have bothered attempting that stair-step obstacle. Eyeballing it, I figured I'd run the bumper into the hillside before I got the tires up to the edge.

I was wrong.

Oh, and did I mention this was the only vehicle in the entire group on the standard Pirelli Scorpion ATR tires? Everything else had the optional Falken Wildpeak A/Ts with a much more aggressive tread pattern.

It was, however, still a Badlands trim like the rest, and that matters. The Badlands (and the First Edition, which is a limited run based on the Badlands) is endowed with serious off-roading hardware. Right up front, it's the only trim to get a much more powerful 2.0-liter turbocharged I-4 with 250 hp and 277 lb-ft compared to the 1.5-liter turbo I-3's 181 hp and 190 lb-ft. Around back, it's connected to an upgraded rear axle with clutch packs on each halfshaft. These allow the all-wheel-drive system (with help from the braking system) to send power to the

wheel or wheels that have the most grip. It can also function as a rear axle locker or overdrive the outside wheel to make the vehicle nimbler, though overuse of either can overheat the unit and cause the computer to reduce power until it cools.

How the computer apportions engine power is controlled from a knob on the center console behind the rotary shifter. Labeled G.O.A.T. Modes (Goes Over Any Terrain, a callback to the original Bronco), the Badlands has seven programs for the street and the dirt, including Rock Crawl and Mud and Ruts modes, which take advantage of that trick rear axle, while all the other Bronco Sports make do with five modes. In addition to the modes, you can manually lock the all-wheel-drive system



SPECS **BASE PRICE** \$34,155 **VEHICLE LAYOUT** Front-engine, AWD, 5-pass, 4-door SUV **ENGINE** 2.0L/250-hp/277-lb-ft turbocharged DOHC 16-valve I-4 **TRANSMISSION** 8-speed automatic **CURB WEIGHT** 3,700 lb (mfr) **WHEELBASE** 105.1 in **L X W X H** 172.7 x 74.3 x 71.4 in **0-60 MPH** 7.0 sec (MT est) **EPA CITY/HWY/COMB FUEL ECON** 22/30/25 mpg (MT est) **ENERGY CONSUMPTION, CITY/HWY** 153/112 kWh/100 miles (MT est) **CO2 EMISSIONS, COMB** 0.78 lb/mile (MT est) **ON SALE IN U.S.** Currently



MIKE CONNOR

MT CONFIDENTIAL

MASER MONEY FCA is investing heavily in Maserati, funding a swarm of new models over the next five years. It's spending on replacements for the current-generation Ghibli sedan, GranTurismo coupe, GranCabrio convertible, and Levante SUV. Additions to the lineup include the just-announced MC20 supercar and the forthcoming midsize Grecale SUV. All will be available with full battery-electric powertrains. And, insiders say, that investment is baked into the merger with French automaker PSA, which is expected to close within months. But what's the endgame? Intriguingly, sources in Modena say the success of the Ferrari IPO on FCA's watch might encourage the merged company, named Stellantis and headed by PSA chief Carlos Tavares, to eventually consider spinning off Maserati, as well.

MID-ENGINE MAYHEM Does Ferrari need two mid-engine supercars? The answer is yes, say insiders from Maranello, who point out the new SF90 Stradale and SF90 Spider are not only significantly more powerful than the F8 Tributo coupe and convertible but also significantly more expensive. They see the SF90s, which unlike previous hyper Ferraris will not be built in limited numbers, as additive to the lineup. What they say Ferrari doesn't need, however, are two wagon-type models. As such, the forthcoming Purosangue SUV means the end of the road for the GTC4Lusso. **SAVE THE V-12** As the Ferrari Purosangue is likely to make its debut with a hybrid powertrain rumored to have 700 hp and anchored by the 4.0-liter twin-turbo V-8 that powers the Roma coupe and Portofino convertible, that leaves the 812 Superfast as the only Ferrari powered by the 6.5-liter naturally aspirated V-12. Is that enough to keep this magnificent engine alive as tightening emissions and fuel consumption regulations inexorably drive everyone to smaller-capacity turbo motors? "We are fighting and fighting to maintain the naturally aspirated V-12," a source says. "And right now, with the limits we see and the regulations that are in discussion, we think we can make it." **BIG MERCS** While on the subject of V-12 engines, one that's not going away is Daimler's 6.0-liter twin-turbo 12-cylinder. Word out of Stuttgart is the engine is being reserved for the Z223 Mercedes-Maybach, the differently styled uber-limo version of the new W223 S-Class. Although Daimler is only officially talking about a Maybach with the same 496-hp mild hybrid version of the 4.0-liter twin-turbo V-8 offered in the S 580, sources unofficially confirm the V-12, which makes 621 hp in the current Mercedes-Maybach S 650, fits under the hood of the Z223 and will return in the new model. Rumor is the Mercedes V-12 might also be offered in top-spec Maybach versions of the GLS SUV.

on, manually "lock" (via clever software programming) the rear axle, or engage the off-road cruise control with hard buttons next to the mode knob.

The Badlands also gets a standard nose camera that comes on automatically under 15 mph in all off-road modes and can be turned on with a button below the infotainment screen in other modes. It could be improved with overlays showing the path of the tires like Jeep does, the same way a backup camera shows where the rear is going.

All the trick software in the world won't help you with low ground clearance, long overhangs, and bad approach and departure angles, but the Bronco Sport doesn't have those, either. With 8.8 inches of ground clearance on the optional tires and 30.4-degree approach, 32.8-degree departure, and 20.4-degree breakover angles, it's a near photocopy of the Jeep Compass Trailhawk, with more power.

Making said power with a turbocharger meant the Bronco Sport never suffered the effects of altitude as we climbed the arid Inyo Mountains to an old mining cabin perched on a windswept ridge. It clambered over rocks, straddled deep ruts, climbed into and out of washes, gullies, and ditches, and scrambled up loose hillsides. We made occasional use of the steel plate protecting the engine and transmission and another protecting the fuel tank, but not nearly as often as I'd expected. Credit the engineers for prioritizing angles and the long-travel suspension over sportier on-road handling.

We didn't just climb a mountain, either. Not far from the base of the Inyo Mountains are the Olancho Dunes. The ability to rip around the beach, the shore, the desert, and the dunes was a top engineering priority for Ford, so much so that all Bronco Sports have a Sand mode.

Sending power rearward and overdriving the outside wheel lets the little all-wheel-drive SUV slide around like a four-wheel-drive truck as you carve up the dunes.

What truly impresses about the Bronco Sport is how nicely it drives when you're not doing things you see in car commercials. Thanks to a layer of sound deadening under the vehicle, it's surprisingly quiet inside despite the off-road tires. Whatever handling trade-off Ford made in the name of off-road capability was a good one because the Badlands handles fine for a crossover SUV. The bigger 2.0-liter engine feels strong and responsive, the eight-speed transmission clever and unobtrusive. The throttle and brake pedals, both of which felt a bit too aggressive for off-road work, respond nicely in everyday driving.

The tall roof and big windows give the cabin an open and airy feel, with enough headroom to drive wearing a Stetson. Cubbies below the infotainment screen and below the climate controls easily swallow phones, wallets, and whatever else you have on you. The rear seat feels a little claustrophobic and relies on carve-outs in the front seat backs to provide adequate legroom. The cargo space is just deep enough to put a cooler in lengthwise, and it's squared-off for maximum space. Being able to access it by popping open just the rear window like an old-school SUV is an added bonus.

If there's one real knock against the Bronco Sport, it's the industrial-grade plastic that makes up most of the cabin. At \$36,140 out the door for my Badlands test vehicle, this stuff looks cheap. The only saving grace here is, unlike other Fords and most of the non-Jeep competition, the Bronco Sport is a serious off-roader you fully expect to get dirty and beat-up, and this plastic looks like it'll stand up to some abuse. **Scott Evans**



Intake

2022 Hyundai Tucson

FIRST LOOK



You have a decision to make: big infotainment screen seen here, or wireless CarPlay and Android Auto. You can't have both.



Bold Design Goes Mainstream

Don't worry—it looks better in person. The styling isn't the only big change for the 2022 Hyundai Tucson, though. It's longer, wider, and taller than the current SUV, and it will be available as a hybrid and plug-in hybrid for the first time.

The change in proportions means more space inside. The 2022 Tucson is 5.9 inches longer, 0.6 inch wider, and 0.6 inch taller than the model it replaces, with its wheelbase also increasing by 3.4 inches, making it roughly the same size as the Honda CR-V or Toyota RAV4.

The Tucson Limited model we saw in person was equipped with a 10.3-inch touchscreen, capacitive HVAC controls, ambient lighting, and another 10.3-inch screen for the instrument cluster. Lower trims get an 8.0-inch touchscreen with a 4.2-inch LCD display on the instrument cluster, but they benefit from wireless Apple CarPlay and Android Auto,

something you don't get with the 10.3-inch touchscreen.

The bigger proportions mean more space inside. The second-row seats feel like a living room, with a whopping 41.3 inches of legroom and a deep recline. Cargo capacity has also grown from 31.0 to 38.7 cubic feet, and the cargo floor can be lowered a couple of inches for more space.

A 2.5-liter naturally aspirated I-4 engine makes about 190 hp and 185 lb-ft of torque, per Hyundai's estimates, right in line with the competition. An eight-speed automatic sends that power to the front or all four wheels. Hyundai estimates the front-drive Tucson will deliver 28 mpg in combined fuel economy. Unlike the Sonata, the Tucson N Line trim level will be an appearance package only.

Those opting for the Tucson hybrid or plug-in hybrid will get a 1.6-liter turbocharged I-4 mated to a six-speed automatic, an electric motor, and standard

all-wheel drive. The regular hybrid gets a 1.5-kWh battery to deliver an estimated 226 hp and 258 lb-ft while getting 37 mpg combined. The plug-in hybrid uses a 13.8-kWh battery that allows the Tucson to cover about 28 miles on electric drive only before reverting to full-hybrid operation. Power numbers rise to around 260 hp, and fuel economy increases to about 70 mpg-e, rather low compared with the 94-mpg-e Toyota RAV4 Prime and the 102-mpg-e Ford Escape PHEV.

Hybrid models use “e-handling” technology, which should improve the steering response and vehicle stability while providing a fun driving experience.

The “Smaht Pahk” feature is now available in the Tucson; the tech allows the Tucson to park itself or come out of a tight parking spot using the key fob. The BlueLink app allows the driver to see the status of the vehicle and to turn the engine on or off remotely. Drivers with Android devices can also set their phone as a key.

All Tucsons will come standard with forward collision avoidance assist, lane keep assist, lane following assist, auto high-beams, driver attention warning, and a rear occupant alert. Other safety features will be available on higher trims.

Hyundai hasn't announced pricing, but we don't expect it to change much from the current Tucson, which will start at \$24,875 when it goes on sale this spring.

Miguel Cortina

A big stretch right in the middle helps proportions and makes the Tucson competitive with the CR-V and Rav4 on interior space.



SPECS PRICE \$26,000–37,000 (est)

LAYOUT Front-engine, FWD/AWD, 5-pass, 4-door SUV **ENGINE** 2.5L/190-hp/185-lb-ft* DOHC 16-valve I-4; 1.6L/180-hp/195-lb-ft turbo DOHC 16-valve 4-cyl, plus 60-hp/195-lb-ft electric motor, 226 hp/258 lb-ft comb*; 1.6L/180-hp/195-lb-ft turbo DOHC 16-valve I-4, plus 90-hp/224-lb-ft electric motor, 260 hp comb* **TRANSMISSION** 6- or 8-speed auto **CURB WEIGHT** 3,400–4,200 lb (est) **WHEELBASE** 108.5 in L x W x H 182.3 x 73.4 x 65.6 in **0-60 MPH** 7.0–8.5 sec (MT est) **EPA COMB FUEL ECON** 28 mpg/70 mpg-e (est) **ON SALE** Spring 2021

*est

Like rival Honda, Hyundai will only offer a manual transmission on the sport Elantra N Line model.

2022 Hyundai Elantra Stepping Up Its Game

With a new chassis and four powertrains available, including a hybrid and two performance-oriented models, the 2021 Elantra is stepping up its game.

There will be three Elantras to choose from at launch—the regular Elantra, a sportier N Line, and a hybrid. The track-ready Elantra N is coming next year.

The Elantra that most customers will buy is powered by a 2.0-liter Atkinson-cycle I-4 that delivers 147 hp and 132 lb-ft of torque. A continuously variable transmission sends the power to the front wheels. The engine is a carryover from the previous generation but has been updated to improve fuel efficiency. It remains slightly less powerful than the competition, but as we found out during our drive in Los Angeles, it feels adequate.

The CVT takes a lot of the credit for that. Instead of sacrificing fuel economy for performance, it adjusts to deliver torque whenever it's needed. Most notably, it's quiet and refined, without the thrashiness we've experienced in other vehicles with this kind of transmission.

Small bumps didn't seem to bother the chassis, as the shock absorbers quickly intervened to block the vibrations from going into the cabin. On the canyon roads, the Elantra proved it can handle tight turns without losing its composure.

The 2021 Elantra N Line delivers 201 hp and 195 lb-ft of torque thanks to its 1.6-liter turbo I-4. The N Line's standard transmission is a six-speed manual, but a seven-speed dual-clutch transmission is available for an extra \$1,100. Think of the N Line as a Civic Si competitor.

We drove an Elantra N Line with three pedals in the canyons, too, and were

FIRST DRIVE



N Line

satisfied with the performance it delivered. The turbo has a bit of lag, but the added power made a significant difference compared to the regular Elantra.

The N Line's multilink rear suspension showed better body control in tight corners. Hyundai also tightened the spring rates on the N Line, and the result is not a sportier ride that beats you up but rather one that feels well-balanced to provide both a more dynamic experience and a comfortable drive.

Get the Elantra Limited, and you'll be wowed by the 10.3-inch touchscreen, the 10.3-inch digital instrument cluster, and the amount of tech goodies. SE, SEL, and N Line trims get an 8.0-inch touchscreen instead of the big screen but benefit from wireless Apple CarPlay and Android Auto.

The new interior is more spacious than before. Yours truly, at 6-foot-1, had more than enough rear legroom when the driver's seat was set to my position. Despite the fastback roofline, there's also plenty of headroom in the second row.



Hybrid

We were disappointed with the low-quality plastics throughout the interior, especially on the \$26,445 Limited. We'd give Hyundai a pass if we were looking at the subcompact Accent, but today's compact car segment has moved upward. We also missed rear air vents and USB ports for those seated in the second row.

The 2021 Hyundai Elantra starts at \$20,645. The N Line comes in a well-equipped mono-spec trim priced at \$25,095 with the manual transmission.

Miguel Cortina



Hybrid

SPECS PRICE \$20,645–\$26,445

LAYOUT Front-engine, FWD, 5-pass, 4-door sedan

ENGINE 2.0L/147-hp/132-lb-ft Atkinson-cycle

DOHC 16-valve I-4; 1.6L/201-hp/195-lb-ft turbo

DOHC 16-valve I-4 **TRANSMISSION** Cont var auto,

6-speed manual, 7-speed twin-clutch auto

CURB WEIGHT 2,750–3,050 lb (mfr)

WHEELBASE 107.1 in **L x W x H** 184.1 x 71.9 x 55.7–55.9 in

0–60 MPH 6.9–9.0 sec (MT est)

EPA FUEL ECON 25–33/34–43/28–37 mpg

ENERGY CONSUMPTION, CITY/HWY 102–135/78–99

kWh/100 miles **CO2 EMISSIONS, COMB** 0.53–0.68

lb/mile **ON SALE** Currently

Intake

2021 John Deere Gator XUV835R

FIRST TEST



This Gator XUV835R is the flagship, full-size model that tops John Deere's range of Gator side-by-side ATVs—or, more accurately, UTVs (utility task vehicles). That distinction is important, as the side-by-side market subdivides into those designed for work and those trying to be mini fun machines.

Gators are mostly the former, and the lineup opens on the smaller end with the Work Series, followed by the midsize crossover XUV. Deere's full-size crossover XUVs like our test vehicle are billed as "built to work like a truck in places that a truck can't," and they boast a 2,000-pound towing capacity, low-range gearing, and locking differentials, with full weather protection and climate control available. Base pricing starts at \$14,699 and climbs to \$27,399 with diesel power. My well-equipped XUV835R rang the register at a decidedly carlike \$29,408.

Power comes from a mid-mounted 812cc (0.8-liter) DOHC 12-valve

inline-three John Deere engine with 54 hp and 47 lb-ft. A centrifugal clutch gets things moving, after which a belt CVT automatically adjusts its effective gear ratio to account for heavy loads, thick mud, steep hills, etc. And should a load or grade prove too much for the standard range—as happened when I attempted to tow a 40-foot dead pine tree top-first into a grassy field with all its branches still attached—engaging low range will introduce sufficient torque multiplication to get the XUV going. I parked that tree right where I wanted it.

The \$874 power box lift system, meanwhile, made quick work of loading and unloading a heavy water pressure tank, not to mention loads of wood chips and dirt. Like the fanciest new pickups, the Gator's tailgate includes demarcations for measuring cuts in the back country.

The Gator fits steel control arms, coil-over shock units, and disc brakes at all four corners, with an anti-roll bar in the rear and robust halfshaft boot protection in front. A full 7.9 inches of suspension travel are provided to absorb heavy terrain. And the power steering isolates the driver from kickback and provides three easy turns from lock to lock while negotiating a U-turn without leaving the road surface on most two-lane roads.

I slapped our Vbox on the roof and set out to do some testing both on gravel and on pavement. Acceleration proved to be slightly quicker on pavement. The XUV835R's top speed is listed as 45 mph, but ours gamely pulled to 53. It accelerated to 50 mph in 16.8 seconds on its way to a 22.7-second, 52.2-mph quarter mile.

Braking distances from 50 mph were 40 feet shorter on gravel—87 feet versus 127 feet on pavement—because as we've long known, it helps to pile dirt up in front of the tires (anti-lock braking is not offered). **Frank Markus**

SPECS 2021 John Deere Gator XUV835R

BASE PRICE \$25,599 **PRICE AS TESTED** \$29,408

VEHICLE LAYOUT Mid-engine, 4WD, 3-pass, 2-door ATV/ORV truck **ENGINE** 0.8L/54-hp/47-lb-ft DOHC 12-valve I-3 **TRANSMISSION** Cont variable auto, w/ centrifugal clutch **CURB WEIGHT (F/R DIST)** 2,134 lb (48/52%) **WHEELBASE** 84.5 in **L x W x H** 127.1 x 69.4 x 78.2 in **0-50 MPH** 16.8 sec **QUARTER MILE** 22.7 sec @ 52.5 mph **BRAKING, 50-0 MPH** 127 ft (pavement, 87 ft on gravel) **LATERAL ACCELERATION** 0.58 g (avg, on gravel) **EPA CITY/HWY/COMB FUEL ECON** Not rated

REAR VIEW
From the MotorTrend
Archive ...

50

FEB 1971

PRICE: \$0.50

You're currently holding our 2021 Truck of the Year issue in your hands, but back in 1971, this was our Car of the Year issue. That year's winner was the Chevrolet

Vega. Although that car isn't fondly remembered today, for its time it was an exceptional value for an American car, featured novel engineering solutions like an aluminum-block I-4. It was also a safety benchmark for the class and day.



30

FEB 1991

PRICE: \$2.95

If the "Corvette ZR2: Son of Kong" headline didn't grab you, we're not sure what else would. Before you go down a Google rabbit hole, it wasn't a Baja-bashing off-roader like the modern Colorado ZR2; it was a Corvette with its engine swapped for a 454 V-8, producing a budget-minded Corvette ZR-1.

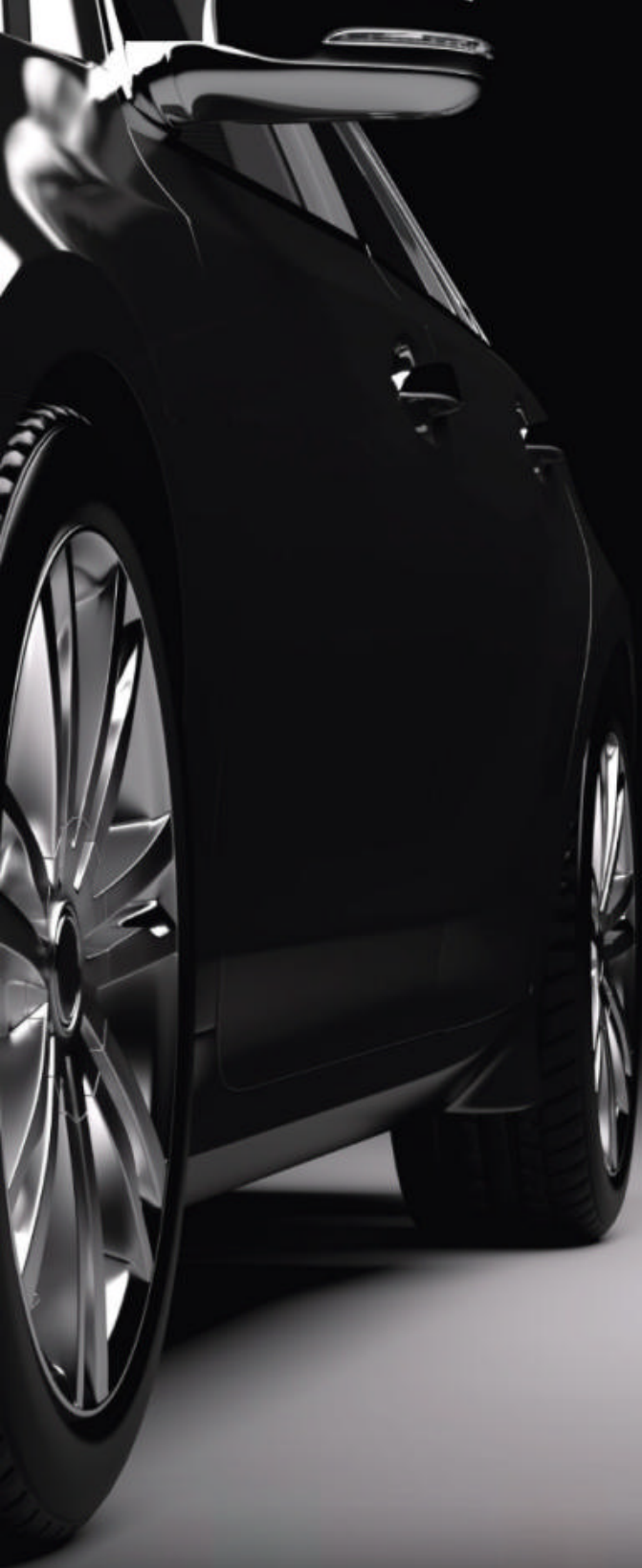


10

FEB 2011

PRICE: \$4.99

"Can Chrysler make it stick?" we asked as we tested the Dodge Avenger, Challenger, Charger, Durango, and Journey, plus the new Chrysler 300. The answer? Kinda. The Avenger is gone and Journey discontinued, but the rest soldier on.



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Frank Markus

Technologue



Clean Wheels, Clean Air: Eliminating brake dust for health and (automotive) beauty

Look out, the emissions police may soon be coming for your tires and brakes. Now that most noxious fumes and hazardous particulate matter have been cleansed from exhaust pipes, global regulatory agencies that monitor those nasty 2.5–10.0-micron particles that can lodge in your lungs and irritate your eyes, nose, and throat are zeroing in on brake dust and tire emissions.

Not even electric vehicles and other “clean” vehicles can escape these measures. But non-exhaust PM emissions will prove devilishly difficult to measure, let alone regulate. Happily, there’s already a solution to the brake dust problem that pays handsome aesthetic dividends: clean wheels and mirror-finish rotors.

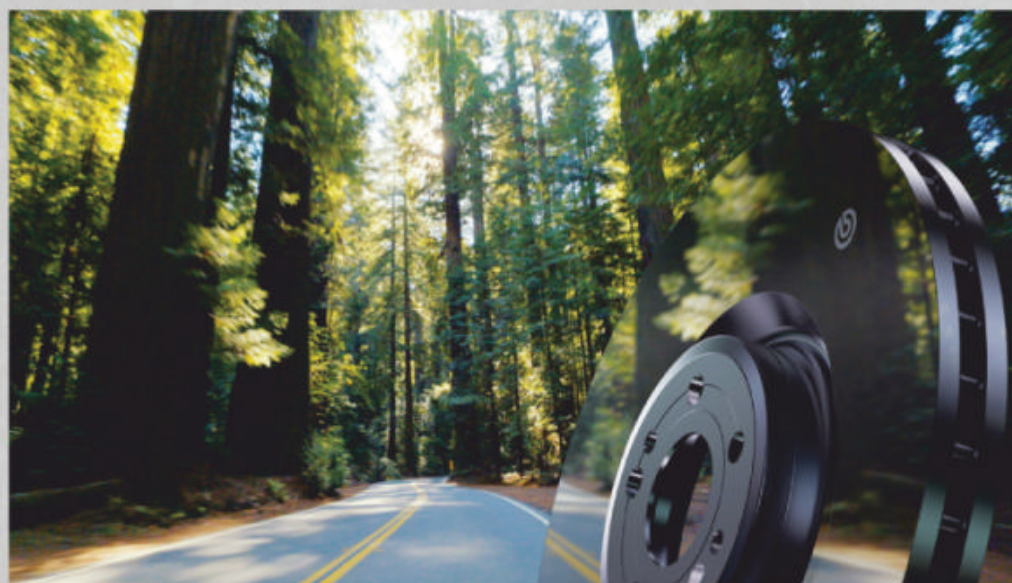
Our fuel economy and emissions-measuring partners Emissions Analytics first drew my attention to this problem in a report last year, in which its testing revealed that a popular family hatchback running on brand-new, correctly inflated name-brand tires had emitted 5.8 grams/kilometer of particles. That’s more than 1,000 times the EU’s 4.5-milligrams/kilometer of allowable tailpipe particulate emissions.

As a result, buyers gravitating toward larger, heavier trucks and SUVs are making our environment worse in ways besides poor fuel economy. Meanwhile, electric vehicles’ heavy battery packs exacerbate tire wear, even as regenerative braking helps reduce the brake dust they generate.

Research by U.K. government air quality experts found that non-exhaust particle emissions contribute to well over half of particle pollution from road transport. Closer to home, the California Air Resources Board awarded the University of California Riverside a research contract to investigate the impact of brake dust, tire wear, and road dust resuspension on near-roadway environments over a two-year period ending in mid-2021.

Future legislation aimed at curbing tire wear certainly threatens to impact every tire parameter that motoring enthusiasts hold dear, from rolling resistance to lateral grip. But a solution to the brake wear problem has already been commercialized, if not “democratized.” The concept first broke cover as standard equipment on the Porsche Cayenne Turbo under the moniker Porsche Surface Control Brakes (PSCB), and just months ago Brembo rolled out a very similar concept under the name “Greentive.”

In each case, a typical gray cast-iron rotor undergoes a thermal spray coating process known as high-velocity oxygen fuel coating. HVOF involves combusting a fluid fuel and oxygen, then forcing the gas they produce out through a nozzle at supersonic speeds. A powder—in this case, tungsten carbide—gets injected into this stream, partially melts without altering its chemistry, and gets deposited on the workpiece, as a dense, 0.1mm-thick, low-porosity



coating with extremely high bond strength.

In each case, the result is a mirrorlike finish on the rotor that will never rust and that greatly extends the life of both the pads and the rotor. Curiously, Porsche pegs the pad and rotor wear improvements at 90 and 30 percent, respectively, while Brembo reverses those—pad wear is reduced by 30 percent, rotor wear by 90 (when the Brembo logo embossed in the rotor disappears, it’s time for new rotors). The Greentive project was undertaken as part of the European LOWBRASYS initiative to develop a low-environmental-impact brake system, which resulted in a claimed reduction in particulate emissions of 50 percent.

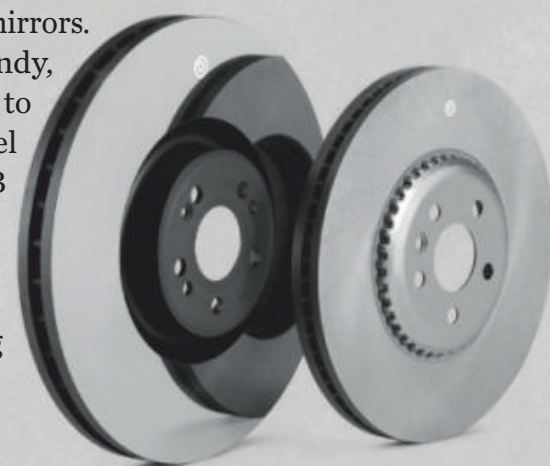
Naturally, these mirror-finished rotors require special pads. Brembo has yet to divulge much information on its Greentive pad chemistry, but it’ll likely match Porsche’s closely. They’re described as mildly “adhesive,” impregnated with microscopic hard particles capable of briefly penetrating the tungsten carbide on a microscopic scale. The low rotor porosity means the entire pad contacts the rotor, with none of the grooves, pits, or voids that limit friction on standard rotors.

How does this technology affect braking performance? Porsche says PSCB maintains its stopping power even at high temperatures, and it creates so little dust that the automaker identifies the package with white calipers. Hence, whatever wheels one chooses, they remain clean as they frame rotors that always look like mirrors.

That HVOF coating process is spendy, so even legislative coercion is unlikely to force this technology down to entry-level cars. Porsche charges \$3,490 for PSCB on Cayenne models. (For reference, Porsche’s ceramic-composite brakes cost \$9,080.) I expect Greentive brake pricing to align with PSCB, appearing on higher-end vehicles first. ■

Clean wheels and mirror-finish rotors are a solution to the brake dust problem.

Porsche developed PSCB in conjunction with Bosch subsidiary Buderus Guss. Its process employs a galvanized layer underlying the tungsten-carbide finish. Brembo employs a different, as yet undisclosed preparatory layer.



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**MOTOR
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Interview



Mike Koval Jr

Head of Ram Brand,
FCA North America

Mike Koval Jr. is now king of the three-peat. The Ram 1500 TRX is the 2021 *MotorTrend* Truck of the Year, following the Ram Heavy Duty win in 2020 and Ram 1500 starting the roll as the 2019 Truck of the Year. Talk about being in the right job at the right time. Koval Jr. has been with FCA since 2002, the last five years with the Ram brand, and he was made head of the brand in July 2020.

What is your secret for success? Since Ram became a stand-alone brand in 2009, we've had the competitive advantage of clarity in our mission as the only dedicated truck and commercial van brand, entirely committed to understanding and delivering on the needs of our customers.

What's next? We're not going to rest on our laurels. An award of this magnitude is validation. This most recent award will help propel us to do even greater things.

Does the Ram name come tripping off the tongue for buyers now? Yes. We talked to truck customers every day to understand their wants and needs. From its very infancy, the all-new Ram 1500 was designed and engineered to be the no-compromise benchmark in terms of strength, durability, innovation, and technology. The segment-disrupting 12.0-inch touchscreen has been a game changer. We are seeing people come to our brand who have never considered us before. Inside the cabin they notice how comfortable and quiet it is. How spacious. The attention to detail. We have back seats that do front-seat things. We are changing the way people think about what a pickup can be.

We await a smaller midsize pickup. When? It's the biggest opportunity for our brand, not just in the U.S. but globally, as well. It's a tremendous white space opportunity. We're actively looking into things.

You have said by 2022, but could we see it before that? It's an ongoing conversation internally. I wouldn't expect anything certainly this year. I know we said by 2022. That obviously remains to be seen.



“WE'RE NOT GOING TO REST ON OUR LAURELS. THIS AWARD WILL HELP PROPEL US TO DO EVEN GREATER THINGS.”

Have you whittled it down to body-on-frame versus unibody lifestyle truck? The question is still open. We're monitoring the competitive landscape today, but most importantly we're futuring what the segment might look like in the years to come to help drive us to an ultimate decision. But we haven't said for sure, not decided internally for sure if, and when, if the time comes, which way we'll go.

Should we expect the Dakota name to return? We understand the heritage of the name, and it runs deeply in our company. We know that it's a special name for our customers, but no decision has been made on what it will be called.

Are there gaps in the Ram lineup, beyond a midsize pickup, that you would like to see filled? We're always looking for new areas. First and foremost, we want to protect our core audience. But we continue to expand the light-duty lineup with the 2021 Ram TRX, which is the quickest, fastest, and most powerful production truck in the world. With the TRX as our halo product, we'll continue to bring in new buyers.

What's your electrification strategy? Are you leaning more to hybrids than pure electric vehicles? I wouldn't say that's true. Ram is absolutely committed to an electrification strategy. Our only difference is timing because pickup buyers use their trucks to tow and haul. There are serious concerns about range anxiety and overall performance with pickups under load. Everything is moving very, very quickly. Ram is moving very quickly, as well.

So we will see an electric Ram? Yes, that's correct. We are fully committed to an electrification strategy. It could encompass multiple solutions, as well.

Does the Hummer put pressure on you? A lot of the claims are impressive. None of this has been proven in real-world application yet. It's wise to monitor the competition, but we're going to stay our course.

Does Ram's role change under Stellantis? The vast majority of Ram volume is in North America: 97 to 98 percent of our global buyers. The needs and wants of the truck and commercial van customer here in the U.S. are unique. Our role will largely stay the same under Stellantis.

Does adding the Jeep Gladiator help or hurt Ram sales? They are two totally different buyers. Research has shown the cross shop is low. They've complemented each other well on the showroom floor.

The Gladiator comes in one configuration, whereas a midsize Ram will have traditional choices of beds and cabs? The Jeep brand is a spirit, a way of life. Ram buyers are different. When you need capability, power, and performance, that's where we distinguish ourselves. We're a scrappy truck maker. We are the underdog figuratively. It's that philosophy. It's being true to who we are. We've got a lot of momentum in the marketplace right now and are very pleased with the trajectory of the brand.

Alisa Priddle

A complete version of this interview can be found at [MotorTrend.com](https://www.motortrend.com).

Your Say...

SUV of the Year

Good choice to award SUV of the Year to the new Land Rover Defender. It deserves it. It combines modern tech with legacy ruggedness and good looks. Talking about off-road capability, I think 99 percent of buyers will never take a Defender on 4x4 trails that challenge it. But comparing the Defender to a Wrangler Rubicon [our 2019 SUV of the Year—Ed.] is questionable; they serve different purposes.

A stock Rubicon can go on any rock-crawling trail (talking from personal experience), but it is not as good for overlanding (or highways). The Defender is the opposite. Whatever magic Land Rover engineers have done with independent air suspension, I doubt the Defender would match the articulation of a Wrangler or would make the Rubicon Trail without major damage. It makes sense to compare the articulation numbers, as well as approach, departure, and breakover angles, if you decide to compare other aspects with the Wrangler. As to overlanding, the Defender is very attractive. I just want to wait and see its reliability. High tech is nice to have but hard to fix in a wilderness. Also, fuel type and consumption concern me: Is premium gas readily available in every corner of the world?

Vidas Mickevicius
Fremont, California

Land Rover has its work cut out to convince buyers its products are reliable. Although reliability isn't an Of The Year criterion, we're looking forward to seeing how our coming long-term Defender holds up over a year of (ab)use on- and especially off-road. As for premium fuel, it proved to be no issue on the launch in Namibia.—Ed.

I recently took delivery of your SUV of the Year, the Defender. Even with the electronic gremlins, I am still thrilled with my purchase. I love your magazine and look forward to every issue!

Ryan Allaman
via email

Hey, We Have an Online Buyer's Guide!

I seek advice about what vehicle to get next. I am an avid reader and find myself flummoxed.

I drive a 2000 Saab 9-3 Turbo hatchback. I love this car. I love the turbo power zooming over the Continental Divide,



Reader on location

This month's reader on location is **James Nichols**, of Kyle, Texas. James sent us this pre-pandemic shot (taken by his lovely wife, Tabitha) of him and our December 2019 issue overlooking the great city of London. Somewhere beneath James and that jumping Corvette is our esteemed European bureau chief, Angus MacKenzie. Thanks for writing and reading, James!

the sturdy handling in all conditions, and even snow/ice performance with only two-wheel drive. I love the 31 mpg, and I love the cargo capacity: I can fit two sets of golf clubs, four suitcases, two dog beds, a large rolling cooler, a large safety bag, an emergency shovel, and miscellaneous bags without having to drop the back seats. I love my leather interior, heated front and back seats, and sunroof, too.

What is my downside? My car is discontinued and 20 years old. Parts are in short supply while maintenance needs are increasing. After 20 years, I am worn down by taking my car from Helena, Montana, five hours to a mechanic for repairs.

My husband and I have no kids and two Labrador retrievers. We are in our late 50s. We need a vehicle that can do everything in all seasons. We carry sports gear (skiing, hunting in the winter, golf and camping in the summer). We need a vehicle to provide great cargo space, from arctic winter to scorching summer and mining roads to freeways. What do you recommend?

Renee Driessen
Helena, Montana

Our first instinct is to suggest a Subaru Outback, as Subaru has a dealer in Helena. We also like the Volvo V60 Cross Country, but that entails a drive to Billings.

We recommend checking out our new Buyer's Guide and Ultimate Car Rankings at MotorTrend.com/cars. That should help point you in the right direction.—Ed.

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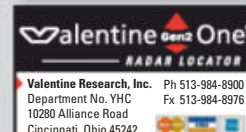
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NOT EVEN A PANDEMIC CAN STOP AMERICA'S LOVE AFFAIR WITH THE PICKUP TRUCK

WORDS MOTORTREND STAFF PHOTOGRAPHY DARREN MARTIN



MOTORTREND TRUCK OF THE YEAR®

THE CONTENDERS

FORD F-250 SUPER DUTY • FORD F-350 SUPER DUTY
JEEP GLADIATOR DIESEL • JEEP GLADIATOR MOJAVE
NISSAN FRONTIER • NISSAN TITAN • NISSAN TITAN XD • RAM 1500 TRX

Finalists

PRO Fantastic engines • phenomenal transmission • exceptional towing ability CON Pricey • disappointing interior • Tremor's off-road experience

2020 Ford Super Duty

Going into to this year's Truck of the Year competition, the refreshed Super Duty was the odds-on favorite. In 2017, the then-new Super Duty took home the Golden Calipers; this year's edition just went through a particularly thorough refresh.

Even though the honey-do list was short, much has been updated. The big news is the most torque in the segment—a muscular 1,050 lb-ft from the 450-hp 6.7-liter turbodiesel V-8. Even bigger, a pushrod 7.3-liter gasoline V-8 replaces the ancient 6.8-liter Modular V-10. Then there's the new 10-speed automatic transmission. Also cool: a new

harder-core off-road package called Tremor, which is available on several trim levels. Let's see how the new Super Duties fared against our six key criteria.

"Advancement in design is not the Super Duty's strong suit," features editor Christian Seabaugh said. The big Fords look just like the old ones. Same goes for the interiors. Sure, a grille got tweaked here, and there's a new color trim there, but you'd be hard-pressed to visually distinguish the 2017s from the 2021s. This is fine for the exterior, as this Super Duty generation is handsome. The interior is a problem, though; the Ram Heavy Duties (last year's TOTY winner) have a nicer interior with a significantly larger and more functional touchscreen. The Ford remains the same.

The two Fords—we tested both an F-250 Tremor and an F-350 Limited dually—did impress us in terms of engineering excellence—especially that big-boy F-350. "The engine is smooth and refined, the transmission shifts gears at the right time, and the



F-350



F-250

steering gives you a great feel of what's happening at the wheels," *MotorTrend en Español's* Miguel Cortina said. "It's hard to believe this truck has over 1,000 lb-ft of torque given how refined it is."

Then there's towing. "This truck is only vaguely aware that 5,200 pounds of trailer has been attached," features editor Scott Evans said. "The weight is inconsequential to this engine."

The same is true for the Tremor when saddled with a 2.5-ton trailer. "Trailer never wagged the truck in the slightest," Evans said. "The 7.3-liter V-8 has a ton of power. I wouldn't worry at all pulling a heavier trailer. The transmission is at the top of its game, which made towing a breeze."

If only the Tremor were as loved off-road. "It's like exploring the world with an anvil," associate road test editor Erick Ayapana said. It's crazy-capable, but its massive weight gave it a brutal ride off-pavement, even after airing down the tires. Said Cortina: "Its ride is stiff, bouncy, and jittery. Even on the parts where the trail seems smooth, there's a lot of vibration in the cabin." Seabaugh added that it "rebounds poorly over bumps and lacks the body control of a Power Wagon."

Why? Because unlike the competition, the Tremor offers impressive payload capacity. However, it's billed as an off-roader. This means the F-250 Tremor stumbles a bit against one of our key criteria, performance of intended function.

We also struggled saying the refreshed Fords are better than the Ram Heavy Duty trucks that won it all last year, save for towing, where we all agree that the F-350 Limited dually can out-tow an airport tug. It also excels as a cruiser. "This dually drives so well that you forget you're driving a dually," Cortina said.

Many of us felt the same way about the Ram 3500 last year. A future comparison test is going to have to settle this one. Until that time, know that Ford did a great job polishing its largest diamond.

Jonny Lieberman



F-350

SPECS	2020 Ford F-250 Super Duty XLT Tremor	F-350 Super Duty Limited 6.7L Power Stroke 4x4
Base price/as tested	\$51,775/\$61,555	\$88,805/\$92,305
Power (SAE net)	430 hp @ 5,500 rpm	475 hp @ 2,600 rpm
Torque (SAE net)	475 lb-ft @ 4,000 rpm	1,050 lb-ft @ 1,600 rpm
Accel, 0-60 mph	7.3 sec	6.8 sec
0-60 (towing)	12.5 sec	11.2 sec
Quarter mile	15.6 sec @ 89.6 mph	15.2 sec @ 92.3 mph
Braking, 60-0 mph	151 ft	138 ft
Double lane change	4.13 sec	4.21 sec
EPA city/hwy/comb	Not rated	Not rated



XLT Tremor

F-250; F-350 VEHICLE LAYOUT Front-engine, 4WD, 5-pass, 4-door truck **ENGINE/TRANSMISSION** 7.3L OHV 16-valve V-8; 6.7L turbodiesel OHV 32-valve V-8/10-speed automatic **CURB WEIGHT** 7,240; 8,700 lb **WHEELBASE** 159.8; 176.0 in **LENGTH x WIDTH x HEIGHT** 250.0 x 80.0 x 79.3; 266.2 x 96.0 x 81.5 in **ENERGY CONS, CITY/HWY** Not rated **CO2 EMISSIONS, COMB** Not rated



PRO Improved fuel economy • better off-road capability • better steering **CON** Reduced payload/towing capacity • leaky soft top • scary towing

2021 Jeep Gladiator

Character and heritage are as much Jeep's stock in trade as off-road capability. "It's a Jeep thing" can be as much praise as it can be damnation, though, depending on who's saying it and why. The Gladiator has improved at being a Jeep, but it's hardly better at being a truck.

The Gladiator's repeat invitation to Truck of the Year hinged on a pair of important new options: a 260-hp, 442-lb-ft 3.0-liter turbodiesel V-6 and a desert-bashing suspension. Although not offered together, the EcoDiesel engine and Mojave trim level each add impressive capability. Both, however, come with compromises.

The diesel engine brings much-needed low-end torque to the Gladiator's repertoire, making the truck not only empirically quicker but also more comfortable to drive. It gets up and moves off the line better, it gets up to freeway speeds a full second quicker than the standard gas V-6, and it passes with ease at highway speeds. It does all of this while

bumping the Gladiator to best-in-class city mpg and ties it for best highway mpg. It's just too bad Jeep charges you \$6,000 for the privilege of paying more for diesel at fewer fueling locations.

The new Mojave trim level and its high-performance suspension, meanwhile, give the truck a whole new dimension of off-road capability: speed. Able to absorb enormous impacts without fear of damage or loss of control, the Mojave is an absolute riot off-road in any condition.

However, both versions come at the expense of payload and towing capacity. Be it the diesel's weight and cooling needs or the Mojave's soft suspension, each gives up hundreds of pounds of payload and up to 1,000 pounds of towing capacity compared to other Gladiators.

Worse, the towing experience with either version can only be described as scary and, frankly, bordering on dangerous. Connected to a 5,200-pound, 23-foot Airstream Flying Cloud travel trailer (comfortably under



the trucks' 6,000- to 6,500-pound limits), both Gladiators struggled mightily to maintain control on anything but perfectly smooth, straight asphalt.

Any alteration to perfect conditions sent the trailer swaying across the lane and even out of it. The Gladiators simply could not control the trailer over bumpy pavement, in windy conditions, or in the wash of other large vehicles.

I experienced more trailer anti-sway stability control intervention in a one-hour freeway drive behind the wheel of the Gladiator than I have in the entirety of my 12-year vehicle testing career. Every judge who trailered with a Gladiator experienced at least



one near miss when the trailer nearly jumped out of its lane and the Gladiator did nothing to stop it. Not a single judge ever wanted to trailer with a Gladiator again.

This was a surprise to us, as we had no such issue towing a 4,000-pound trailer with the Gladiator at last year's competition. We would strongly recommend anyone planning to tow a larger trailer with a Gladiator invest in a weight-distributing hitch.

We reached out to Jeep about this alarming development. The company declined to comment.

"That's the story of the Gladiator," senior features editor Jonny Lieberman said. "It's good but flawed. I took it through a car wash, and water leaked in. That's just totally inexcusable."

Although we appreciate the diesel engine, Mojave trim level, and improvements made to the wandering steering, we cannot overlook the reduced ability to do actual truck stuff. **Scott Evans**

THE DIESEL BRINGS MUCH-NEEDED LOW-END TORQUE.



Mojave

SPECS	2021 Jeep Gladiator Sport EcoDiesel	2021 Jeep Gladiator Mojave
Base price/as tested	\$41,060/\$50,540	\$45,370/\$64,865
Power (SAE net)	260 hp @ 3,600 rpm	285 hp @ 6,400 rpm
Torque (SAE net)	442 lb-ft @ 1,400 rpm	260 lb-ft @ 4,400 rpm
Accel, 0-60 mph	7.6 sec	8.6 sec
0-60 (towing)	15.6 sec	18.2 sec
Quarter mile	15.9 sec @ 86.1 mph	16.5 sec @ 83.3 mph
Braking, 60-0 mph	123 ft	133 ft
Double lane change	3.69 sec	3.89 sec
EPA city/hwy/comb	22/28/24 mpg	17/22/19 mpg



Sport

SPORT ECODIESEL; MOJAVE VEHICLE LAYOUT Front-engine, 4WD, 5-pass, 4-door truck **ENGINE/TRANSMISSION** 3.0L turbodiesel DOHC 24-valve V-6; 3.6L DOHC 24-valve V-6/8-speed automatic **CURB WEIGHT** 5,040; 5,144 lb **WHEELBASE** 137.3 in **LENGTH x WIDTH x HEIGHT** 218.0 x 73.8 x 75.0; 76.1 in **ENERGY CONS, CITY/HWY** 171/135; 198/153 kWh/100 miles **CO2 EMISSIONS, COMB** 0.91; 1.02 lb/mile

Finalists

PRO Punchy engine • charming vibe • still capable CON Ancient exterior design • no telescoping wheel • lack of technology

2020 Nissan Frontier

Enter the 2020 Nissan Frontier, and you'll feel like you're traveling back a decade. That was when it last received an upgrade. The platform itself hasn't seen any major overhauls since it launched in 2004. It's almost old enough to vote. But instead of retiring the current generation, Nissan is giving us a taste of what the next truck will be like, as the 2020 Frontier got the new engine and transmission that will be the heart of the new truck coming next year. Powered by a 3.8-liter naturally aspirated V-6, the 2020 Frontier produces 310 hp and 281 lb-ft of torque. This is the only engine available in the Frontier, which

means the four-cylinder mill has finally been retired. Nissan says the new V-6 was developed with the U.S. market in mind and is composed of 93 percent new or redesigned parts. With those numbers, the 2020 Frontier is slightly more powerful than the Chevrolet Colorado, Jeep Gladiator, and Toyota Tacoma with their six-cylinder mills. And that showed during our testing. "Unlike so many in the midsize truck segment that make do with repurposed car engines, the Frontier's new engine is torque-rich in the middle of its powerband rather than the northern reaches of the tach," features editor Christian Seabaugh said. "That makes it better at doing trucky stuff. The midrange torque is not only a boon on-road, where it makes the Frontier feel quicker than it undoubtedly is, but it also makes it a more useful tool." During an off-road outing at the Hungry Valley Recreation Area in Southern California, the Frontier felt in its element. Whether we were doing high-speed



off-roading or climbing steep hills, the Nissan's engine showed its power and refinement, making easy work of the mined hill climbs. And although deep holes and ruts tested the suspension, four-wheel-drive system, and articulation, the Frontier's aged chassis nonetheless felt solid. As good as the engine is, we weren't as pleased with its nine-speed transmission. It's programmed to upshift too early, and it took its time to downshift. On the road, we appreciated the Frontier's honesty; it's not the most composed truck in the segment, but it's not trying to be. "The way the truck leans in turns and the feeling like 80 mph might

as well be 150 mph certainly give it personality," features editor Scott Evans said. "It's a strangely endearing little truck despite its age and market dysmorphia." Inside, you'll feel like you're back to the days when the Curse of the Bambino was still a thing. Everything looks outdated—from the infotainment screen to the design to the seating position. The small display on the center console is ancient by today's standards, and it lacks CarPlay and Android Auto. The cabin carries an unintentionally retro vibe due to its sea of gray plastic. "I guess the nice thing is that you could spill multiple cups of coffee all over this interior and simply never care," senior features editor Jonny Lieberman said. And the seating position could improve if the Frontier was equipped with a telescoping wheel. At \$38,745, our 2020 Frontier Pro-4X didn't bring enough value to the table. Although its powertrain feels adequate, the rest of the truck needs more oomph to gain our hearts. As much as we were impressed with what the Frontier can do, it didn't do as well against our criteria. "Truck of the Year ... 2004," Evans joked. The midsize truck segment has evolved in the past 16 years. The Frontier hasn't. Miguel Cortina



THE FRONTIER MADE EASY WORK OF MINED HILL CLIMBS.



SPECS	2020 Nissan Frontier Pro-4X
Base price/as tested	\$38,585/\$38,745
Power (SAE net)	310 hp @ 6,400 rpm
Torque (SAE net)	281 lb-ft @ 4,400 rpm
Accel, 0-60 mph	7.5 sec
0-60 (towing)	N/A
Quarter mile	15.8 sec @ 88.1 mph
Braking, 60-0 mph	122 ft
Double lane change	3.85 sec
EPA city/hwy/comb	17/23/19 mpg



VEHICLE LAYOUT Front-engine, 4WD, 5-pass, 4-door truck ENGINE/TRANSMISSION 3.8L DOHC 24-valve V-6/9-speed automatic CURB WEIGHT 4,630 lb WHEELBASE 125.9 in LENGTH x WIDTH x HEIGHT 205.5 x 72.8 x 73.9 in ENERGY CONS, CITY/HWY 198/147 kWh/100 miles CO2 EMISSIONS, COMB 1.01 lb/mile

PRO Strong V-8 • lots of safety tech • comfortable cabin **CON** Rough ride • vague steering feel • pricey

2020 Nissan Titan

With the revamped Titan and Titan XD pickups, Nissan appears to have embraced the principles of Marie Kondo by keeping what sparks joy and eliminating the rest.

But the trucks' missions remain the same. The Titan goes to battle in the half-ton segment dominated by the Ford F-150, Ram 1500, Chevrolet Silverado, and GMC Sierra, while the Titan XD takes on the heavy-duties.

To that end, the 5.6-liter V-8 stays and serves as the sole engine for both Titan and Titan XD, which means the eight-cylinder turbodiesel has been cut.

Not only does the gas V-8 carry over, but it's also slightly more powerful than before, making 400 hp and 413 lb-ft of torque, a jump of 10 hp and 19 lb-ft. Better yet, it's now mated to a new nine-speed automatic transmission, replacing the aging seven-speed unit.

"The engine is very stout, and it is mated to the nine-speed transmission wonderfully," senior features editor Jonny Lieberman said. "It's a deceptively quick

truck, and it sounds very healthy. Real full throated."

Both Titans also performed well in our towing evaluation, which consisted of pulling a 5,200-pound Airstream camper up and down the Interstate 5 grade near Castaic, California.

"What a pleasant surprise! The Titan tows really nicely," features editor Scott Evans said. "It's such a welcome improvement from the last version. The new transmission and shorter rear end fixed all the issues we had a few years ago. Now, the engine can do its job. It almost had the power but not the gearing. Now it has both."

That said, a few weaknesses might deter buyers seeking a tow rig. The Titan's max tow capacity, for example, is just somewhat competitive, and the Titan XD is less brawny than the heavy-duties from Ford, Ram, and GM.

Evans also noted a few head-scratching issues while towing, including backup sensors and warning beeps that don't turn off when a trailer is attached. He also wasn't impressed with



Titan SV

the low-res camera, which made tedious work of lining up the hitch.

When it comes to design, most judges felt the Titan's sheetmetal doesn't look as sharp as trucks from the domestic brands. The interior received a fair amount of praise, especially the top-spec Titan XD Platinum Reserve, which sported quilted leather seats and woodlike trim.

Unfortunately, those luxurious vibes were overshadowed by the driving experience. "Steering on both trucks is gluey and blah," features editor Christian Seabaugh said. Added Evans of the Titan XD: "The ride is rather busy and stiff." He also found it "quite loud inside on the freeway."



In addition to cutting an engine, Nissan also simplified trim levels and cab offerings. The half-ton Titan ditches the regular cab; buyers are left with either an extended cab with a 6.5-foot bed or a crew cab with a 5.5-foot bed. Meanwhile, the heavy-duty XD makes do with just the crew cab and 6.5-foot bed. The regular Titan is offered in RWD or 4WD, while XD only offers the latter.

And although simplifying things might be good for your cluttered studio apartment, we have our doubts about this strategy in the truck segment defined by its varied customer base.

"Both Titans really struggle against the criteria," Seabaugh said. "They're not as capable from a payload or towing perspective as Ram, Ford, or GM half-ton trucks, they don't have the power-train options to help score points on efficiency, and they're priced optimistically." **Erick Ayapana**

"WHAT A PLEASANT SURPRISE! IT TOWS REALLY NICELY."



Titan XD Platinum Reserve

SPECS	2020 Nissan Titan SV	2020 Nissan Titan XD Platinum Reserve
Base price/as tested	\$41,585/\$46,535	\$63,285/\$69,220
Power (SAE net)	400 hp @ 5,800 rpm	400 hp @ 5,800 rpm
Torque (SAE net)	413 lb-ft @ 4,000 rpm	413 lb-ft @ 4,000 rpm
Accel, 0-60 mph	6.3 sec	7.6 sec
0-60 (towing)	11.9 sec	13.4 sec
Quarter mile	14.9 sec @ 94.5 mph	15.9 sec @ 86.9 mph
Braking, 60-0 mph	123 ft	136 ft
Double lane change	3.85 sec	3.96 sec
EPA city/hwy/comb	16/22/18 mpg	Not rated



XD

TITAN; TITAN XD VEHICLE LAYOUT Front-engine, RWD; 4WD, 5-pass, 4-door truck **ENGINE/TRANSMISSION** 5.6L DOHC 32-valve V-8/9-speed automatic **CURB WEIGHT** 5,571; 6,980 lb **WHEELBASE** 139.8; 151.6 in **LENGTH x WIDTH x HEIGHT** 228.2 x 79.5 x 75.1; 243.4 x 80.7 x 78.9 in **ENERGY CONS, CITY/HWY** 211/153 kWh/100 miles; not rated **CO2 EMISSIONS, COMB** 1.06 lb/mile; not rated

TOTY Finalists	2020 Ford F-250 Super Duty XLT Tremor; F-350 Super Duty Limited 6.7L Power Stroke 4x4	2021 Jeep Gladiator Sport EcoDiesel; Gladiator Mojave	2020 Nissan Frontier Pro-4X
POWERTRAIN/CHASSIS			
DRIVETRAIN LAYOUT	Front-engine, 4WD	Front-engine, 4WD	Front-engine, 4WD
ENGINE TYPE	90-deg V-8, iron block/alum heads; <i>turbodiesel</i> <i>90-deg V-8, iron block/alum heads</i>	Turbodiesel 60-deg V-6, iron block/alum heads; <i>60-deg V-6, alum block/heads</i>	60-deg V-6, alum block/heads
VALVETRAIN	OHV, 2 valves/cyl; OHV, 4 valves/cyl	DOHC, 4 valves/cyl	DOHC, 4 valves/cyl
DISPLACEMENT	445.3 cu in/7,298cc; <i>406.8 cu in/6,665cc</i>	182.3 cu in/2,987cc; <i>219.9 cu in/3,604cc</i>	231.8 cu in/3,799cc
COMPRESSION RATIO	10.5:1; <i>15.8:1</i>	16.0:1; <i>11.3:1</i>	11.0:1
POWER (SAE NET)	430 hp @ 5,500 rpm; <i>475 hp @ 2,600 rpm</i>	260 hp @ 3,600 rpm; <i>285 hp @ 6,400 rpm</i>	310 hp @ 6,400 rpm
TORQUE (SAE NET)	475 lb-ft @ 4,000 rpm; <i>1,050 lb-ft @ 1,600 rpm</i>	442 lb-ft @ 1,400 rpm; <i>260 lb-ft @ 4,400 rpm</i>	281 lb-ft @ 4,400 rpm
REDLINE	6,000; <i>4,000</i> rpm	4,500; <i>6,500</i> rpm	6,800 rpm
WEIGHT TO POWER	16.8; <i>18.3</i> lb/hp	19.4; <i>18.0</i> lb/hp	14.9 lb/hp
TRANSMISSION	10-speed automatic	8-speed automatic	9-speed automatic
AXLE/FINAL-DRIVE/LOW RATIO	4.30:1/2.72:1/2.64:1; <i>3.55:1/2.24:1/2.64:1</i>	3.73:1/2.50:1/2.72:1; <i>4.10:1/2.75:1/4.00:1</i>	3.69:1/2.20:1/2.72:1
SUSPENSION, FRONT/REAR	Live axle, coil springs, anti-roll bar/live axle, leaf springs	Live axle, coil springs, <i>adj anti-roll bar</i> /live axle, coil springs, anti-roll bar	Control arms, coil springs, anti-roll bar/live axle, leaf springs
STEERING RATIO	17.5:1	13.3:1	20.4:1
URNS LOCK TO LOCK	3.6; 3.0	3.2	3.3
BRAKES, F/R	14.3-in vented disc/14.3-in vented disc, ABS	12.9-in vented disc/13.6-in vented disc, ABS	11.0-in vented disc/11.3-in vented disc, ABS
WHEELS	8.0 x 18-in cast aluminum; <i>6.5 x 17-in forged aluminum</i>	7.5 x 17-in cast aluminum	7.0 x 16-in cast aluminum
TIRES	285/75R18 129/126Q Goodyear Wrangler Duratrac; <i>245/75R17 121/118R Michelin LTX A/T2</i>	245/75R17 112T Bridgestone Dueler A/T (M+S); <i>285/70R17 116/113O Falken Wildpeak A/T AT3W</i>	265/75R16 114T Hankook Dynapro ATM (M+S)
DIMENSIONS			
WHEELBASE	159.8; <i>176.0</i> in	137.3 in	125.9 in
TRACK, F/R	68.3/67.2; <i>69.1/74.7</i> in	62.9/62.9; <i>65.0/65.0</i> in	61.8/61.8 in
LENGTH X WIDTH X HEIGHT*	250.0 x 80.0 x 79.3; <i>266.2 x 96.0 x 81.5</i> in	218.0 x 73.8 x 75.0; <i>76.1</i> in	205.5 x 72.8 x 73.9 in
GROUND CLEARANCE	10.8; 8.3 in	10.0; <i>11.6</i> in	8.9 in
APPROACH/DEPART ANGLE	31.7/24.5; <i>17.9/20.2</i> deg	40.8/25.0; <i>44.7/25.5</i> deg	32.6/23.3 deg
TURNING CIRCLE	55.0; <i>57.8</i> ft	44.5; <i>45.0</i> ft	43.3 ft
CURB WEIGHT	7,240; <i>8,700</i> lb	5,040; <i>5,144</i> lb	4,630 lb
SEATING CAPACITY	5	5	5
HEADROOM, F/R	40.8/40.4 in	40.8/40.8 in	39.9/38.6 in
LEGROOM, F/R	43.9/43.6 in	41.2/38.3 in	42.4/33.6 in
SHOULDER ROOM, F/R	66.7/65.9 in	55.7/55.7 in	58.3/58.3 in
PICKUP BOX L X W X H	81.9 x 66.9 x 21.1; <i>98.1 x 66.9 x 21.1</i> in	60.3 x 56.3 x 17.5 in	59.5 x 61.4 x 18.0 in
BOX VOLUME	65.4; <i>78.5</i> cu ft	35.0 cu ft	27.1 cu ft
WIDTH BET WHEELHOUSES	50.5 in	44.8 in	44.4 in
CARGO LIFT-OVER HEIGHT	38.1; <i>36.9</i> in	34.8 in	32.8 in
PAYLOAD CAPACITY	2,760; 5,300 lb	1,210; <i>1,206</i> lb	1,382 lb
TOWING CAPACITY	15,000; 21,200 lb (18,600; 31,300 lb 5th wheel)	6,500; <i>6,000</i> lb	6,290 lb
TEST DATA			
ACCELERATION TO MPH			
0-30	2.6; 2.4 sec	2.4; 2.7 sec	2.6 sec
0-40	3.9; 3.6	3.9; 4.2	3.9
0-50	5.4; 5.0	5.5; 6.1	5.6
0-60	7.3; 6.8	7.6; 8.6	7.5
0-60 TOWING (5,200 LB)	12.5; <i>11.2</i>	15.6; <i>18.2</i>	N/A
0-70	9.5; 8.7	10.1; <i>11.4</i>	9.8
0-80	12.2; <i>11.2</i>	13.4; <i>15.1</i>	12.9
0-90	15.8; <i>14.5</i>	17.7; –	16.5
PASSING, 45-65 MPH	3.7; 3.4	4.2; 4.8	3.9
QUARTER MILE	15.6 sec @ 89.6 mph; <i>15.2 sec @ 92.3 mph</i>	15.9 sec @ 86.1 mph; <i>16.5 sec @ 83.3 mph</i>	15.8 sec @ 88.1 mph
BRAKING, 60-0 MPH	151; <i>138</i> ft	123; 133 ft	122 ft
LATERAL ACCELERATION	0.70; 0.69 g (avg)	0.71; 0.72 g (avg)	0.70 g (avg)
MT FIGURE EIGHT	30.2 sec @ 0.53 g (avg); <i>29.1 sec @ 0.58 g (avg)</i>	28.5 sec @ 0.58 g (avg); <i>29.4 sec @ 0.54 g (avg)</i>	29.4 sec @ 0.55 g (avg)
250-FT DOUBLE LANE CHANGE	4.13; 4.21 sec	3.69; 3.89 sec	3.85 sec
TOP-GEAR REVS @ 60 MPH	1,600; <i>1,500</i> rpm	1,650; <i>1,750</i> rpm	1,500 rpm
CONSUMER INFO			
BASE PRICE	\$51,775; <i>\$88,805</i>	\$41,060; <i>\$45,370</i>	\$38,585
PRICE AS TESTED	\$61,555; <i>\$92,305</i>	\$50,540; <i>\$64,865</i>	\$38,745
STABILITY/TRACTION CONTROL	Yes/Yes	Yes/Yes	Yes/Yes
AIRBAGS	4: Dual front, f/r curtain	4: Dual front, front side/head	6: Dual front, front side, f/r curtain
BASIC WARRANTY	3 years/36,000 miles	3 years/36,000 miles	3 years/36,000 miles
POWERTRAIN WARRANTY	5 years/60,000 miles	5 years/60,000 miles	5 years/60,000 miles
ROADSIDE ASSISTANCE	5 years/60,000 miles	5 years/60,000 miles	3 years/36,000 miles
FUEL CAPACITY	34.0; <i>48.0</i> gal	18.3; 22.0 gal	21.1 gal
EPA CITY/HWY/COMB ECON	Not rated	22/28/24; 17/22/19 mpg	17/23/19 mpg
ENERGY CONS, CITY/HWY	Not rated	171/135; <i>198/153</i> kWh/100 miles	198/147 kWh/100 miles
CO2 EMISSIONS, COMB	Not rated	0.91; 1.02 lb/mile	1.01 lb/mile
RECOWD FUEL	Unleaded regular; <i>diesel</i>	Diesel; <i>unleaded regular</i>	Unleaded regular

*Before options

2020 Nissan Titan SV;
Titan XD Platinum Reserve

Front-engine, RWD; 4WD
90-deg V-8, alum block/heads
DOHC, 4 valves/cyl
338.8 cu in/5,552cc
11.2:1
400 hp @ 5,800 rpm
413 lb-ft @ 4,000 rpm
6,400 rpm
13.9; 17.5 lb/hp
9-speed automatic
3.69:1/2.20:1/-; 4.08:1/2.44:1/2.72:1
Control arms, coil springs, anti-roll bar/ live axle, leaf springs, anti-roll bar
16.0:1; 19.0:1
3.0; 4.6
13.8-in vented disc/13.6-in vented disc; 14.2-in vented disc; 14.4-in vented disc, ABS
8.0 x 18-in; 7.5 x 20-in cast aluminum
265/70R18 116S; 265/60R20 121/118R General Grabber HTS (M+S)
139.8; 151.6 in
67.9/67.9; 68.6/68.6 in
228.2 x 79.5 x 75.1; 243.4 x 80.7 x 78.9 in
8.4; 9.1 in
16.5/20.8; 17.8/24.5 deg
48.0; 53.8 ft
5,571; 6,980 lb
5
40.9/38.7; 41.0/40.4 in
41.8/24.8; 41.8/38.5 in
63.3/64.6; 63.3/63.6 in
77.8 x 61.7 x 20.8 in
57.8 cu ft
50.0 in
34.9; 35.6 in
1,529; 1,670 lb
9,370; 10,880 lb (11,000 lb 5th wheel)
2.5, 2.7 sec
3.5; 4.0
4.8; 5.6
6.3; 7.6
11.9; 13.4
8.3; 10.1
10.5; 13.0
13.3; 17.1
3.1; 4.0
14.9 sec @ 94.5 mph; 15.9 sec @ 86.9 mph
123, 136 ft
0.73; 0.69 g (avg)
29.0 sec @ 0.57 g (avg); 29.3 sec @ 0.55 g (avg)
3.85; 3.96 sec
1,500; 1,600 rpm
\$41,585; \$63,285
\$46,535; \$69,220
Yes/Yes
8: Dual front, front side, f/r curtain, front knee
3 years/36,000 miles
5 years/60,000 miles
3 years/36,000 miles
26.0 gal
16/22/18 mpg; not rated
211/153 kWh/100 miles; not rated
1.06 lb/mile; not rated
Unleaded premium

TOTY



This year's Truck of the Year competition featured off-road evaluations at Southern California's Hungry Valley off-road park.



GOING INTO THIS YEAR'S TRUCK OF THE YEAR COMPETITION, THE REFRESHED FORD SUPER DUTY WAS THE ODDS-ON FAVORITE.





The least interesting thing about our 2021 *MotorTrend* Truck of the Year is that it's powered by a 702-hp supercharged V-8.

The 2021 Ram 1500 TRX is a truck that resets the standard of what's possible. It is a game-changer, both on- and off-road: a truck equally capable towing and hauling as it is ripping

donuts in a field or whipping sports cars in drag races. The TRX is not just the 2021 *MotorTrend* Truck of the Year—the unprecedented third consecutive time Ram has won—but the new benchmark that all supertrucks must beat.

At its core, the Ram 1500 TRX is an engineering exercise, and a remarkably impressive one, at that. Although the

TRX shares its 1500 badge with our 2019 Truck of the Year, truthfully it's easier to point out the few similarities than the differences.

The extensive reimagining that the Ram team did to create the TRX started with its chassis. Although the TRX is nominally related to the 1500, Ram engineers modified 74 percent of the frame

THE RAM
BRAND DOES
IT AGAIN
WITH ITS
STELLAR
PICKUP
PLATFORM
RUN RIOT

THREE PEAT

WORDS CHRISTIAN SEABAUGH
PHOTOGRAPHS RENZ DIMAANDAL



MOTORTREND
TRUCK OF THE YEAR **2021**®

2021 TRUCK OF THE YEAR WINNER | Ram 1500 TRX

in order to meet the ambitious goal of making the TRX the ultimate go-anywhere performance vehicle. The TRX's frame is thicker, shaped differently, and boxed, and it uses more high-strength steel to ensure this Ram can avoid the fate that befell many early Ford F-150 Raptors—bent frames from off-road jumps.

The new frame also allowed the Ram team to modify the axles and suspension mounting points to support the TRX's street-legal trophy-truck mission. The front axle shifted forward to help fit 35-inch Goodyear Territory All-Terrain tires (custom specced for the Ram) on 18-inch wheels, and the beefy Dana M250 rear axle is mounted to the chassis via new five-link rear suspension mounting points. Thanks to the new axles and tires, track width increased by 6.0 inches versus the standard 1500.

The new frame and axles are all ostensibly designed around the Ram TRX's party piece: its Bilstein Black Hawk e2 adaptive

dampers. Although it's easy to dismiss as just another nitrogen-charged remote reservoir shock system—albeit one with massive 2.5-inch pistons—there's more than meets the eye here.

These Bilstein shocks combine rigid aluminum construction for strength and heat dissipation with electronic valve damping that allows the Ram team to independently control compression and rebound damping. What that means in practical terms is that it gives Ram engineers the freedom to dial in different shock settings for daily driving, sporty driving, towing, dune running, rock crawling, and even the occasional flight. It's some seriously impressive tech.

Powering the 1500 TRX is FCA's infamous Hellcat engine—which, to be pedantic, is technically only called a Hellcat in Dodge products. Regardless, Ram's iteration of the Hellcat gets some changes not seen in the Dodge Challenger and Charger, or even the Jeep Grand Cherokee Trackhawk. This 6.2-liter supercharged V-8 is actually the least powerful Hellcat variant yet, producing “just” 702 hp and 650 lb-ft of torque.

There's actually a good reason for this—the TRX has a vastly different duty cycle than the Dodges and Jeep. Hellcat engines run hot, so it's no surprise that one of the biggest changes Ram engineers made to the V-8 is in how it breathes. Like GM did with the 2017 update of its Duramax-powered HD trucks, Ram added dual air intakes to the TRX. One air intake sits in the functional hood scoop

(complete with clearance lights), while the other—taking another page from GM—sits behind a Flowtie-style “RAM” badge in the grille. These twin intakes sport two heavy-duty air filters and one-way drains to ensure no dust, dirt, sand, or water reaches the engine and that it can deliver all 702 of its ponies at a moment's notice.

For those of you who think 702 hp is overkill: We're living in an era when some pickup trucks' towing capability is so great that you need a commercial vehicle driver's license to legally drag some things behind you. Yes, we know horsepower and torque (as in the 1,050 lb-ft of towing grunt that the Ford F-Series Super Duty offers) are different things, but we're talking about what can be considered excessive. And we Americans love to push the limits of excess.

But it's so much more than simple horsepower. The other major change to the Hellcat is at the bottom of the TRX's cast-iron block. A new deep-sump oil pan allows the engine to stay lubricated at extreme off-road angles. Farther back, a new exhaust manifold and X-pipe (exiting via 5-inch exhaust tips tucked up in the rear bumper) round out the engine changes. A new high-torque-capacity eight-speed automatic and full-time four-wheel-drive system with a 2.64:1 crawl ratio and electronically locking rear differential complete the TRX's engineering package.

The combined effect of these TRX-specific modifications is a truck that simply excels at towing, hauling, off-roading, and performance driving. Whatever you throw at this Ram, it can hang.





“Before driving it, I’d dismissed this truck as a sort of wannabe Raptor,” senior features editor Jonny Lieberman said. “Man, was I wrong. Like the Challenger Hellcat when it first roared onto city streets, 50 feet of driving is all it takes to make you fall in love with this truck.”

Especially if those first 50 feet or so are part of a quarter mile. The Ram 1500 TRX rockets from 0 to 60 mph in just 4.1 seconds and on through the quarter in 12.7 seconds at 106.3 mph. That makes the TRX not only the quickest pickup we’ve

ever tested but also quicker than performance cars like the Ford Mustang Bullitt, Mercedes-AMG GT 53, and Subaru WRX STI S209 (to name a few). The Ram—despite its heavy-duty off-road tires—even puts up respectable braking and handling numbers, coming to a stop from 60 mph in 130 feet and lapping the figure eight in 28.4 seconds at 0.61 g average.

Numbers are one thing, but the way the TRX feels in the real world is even more impressive. On road, where the majority of owners will (regrettably) spend their time, the Ram is one-half supertruck, one-half luxury GT. Jekyll, meet Hyde.

On a good winding road, the TRX unexpectedly shrinks around you, and those fancy Bilstein shocks manage to bend physics, somehow eliminating body roll and brake dive. The Ram’s steering is even surprisingly good, with progressive feedback and accurate feel. It’s obviously a monster when the road opens up, too.

“The way this thing rears back when you floor it is just nutty,” features editor Scott Evans said, adding that the paddle shifters aren’t as useful as they look, but “you don’t really need them—a little judicious throttle will get the transmission to do exactly what you want, anyway.”

Driven more sedately on a freeway or around town, the Ram TRX can be remarkably calm. The rip-roaring Hellcat engine—which is equal parts air raid siren and Godzilla roar at full throttle—purrs

quietly when pattering along on surface streets. The ride, with 13 inches of suspension travel up front and 14 in back, is unsurprisingly well sorted, easily erasing potholes, expansion joints, speed bumps, and—to the dismay of our facilities manager—parking lot curbs, without transmitting the impact to the cabin’s occupants. “It’s supremely comfortable and relaxing to drive,” associate road test editor Erick Ayapana said.

As you’d expect from a vehicle largely based on our 2019 Truck of the Year, the Ram 1500 TRX excels at “truck stuff,” too. With 99 more horses on tap than the Freightliner Cascadia (the most popular 18-wheeler in the U.S.), towing is a nonissue for the TRX. It’s rated to haul 1,310 pounds in its bed or tow up to 8,100 pounds off its rear hitch (that’s 110 pounds more in the bed and 100 pounds more off the bumper than the rival F-150 Raptor); we put it to the test with a 5,200-pound Airstream Flying Cloud.

In a normal year, we’d test the TRX at max trailer capacity, but as we all well know, 2020 has been anything but normal, so we had to make do with what we had. Even so, at about 65 percent of its max capacity, the TRX is rock solid. Despite its massive suspension travel (not to mention off-road-oriented springs, which, as the Jeep Gladiators reminded us, don’t always play nice with trailers), the TRX inspired confidence.

THE RAM 1500 TRX IS ONE-HALF SUPER TRUCK,
ONE-HALF LUXURY GT. JEKYLL, MEET HYDE.





Hitching the trailer is the most difficult thing about towing with the TRX. Unlike the Ram 1500 or Ram HD (our 2019 and 2020 Trucks of the Year), the TRX doesn't have the ability to squat down on air springs to get under the hitch or self-level. We suggest investing in a good height-adjustable drop hitch. Thankfully, the Ram's high-resolution backup camera (displayed on a segment-exclusive standard 12.0-inch screen), automatic trailer hookup checklist, and automatic blind-spot adjustment—features baked into all Ram pickup trucks—make hitching and trailering a breeze.

And in case you were curious, 702 hp and 650 lb-ft of torque is plenty to drag a 5,200-pound trailer. All hitched up, the Ram accelerated from 0 to 60 mph in 7.5 seconds, making it quicker with the trailer than the Jeeps and Nissan Titan XD were unloaded. "It tows just fine," Evans said. "Flat land, uphill, on the freeway, uphill on the freeway, it doesn't matter. You want to pass a slow-moving truck up a steep hill while pulling your own trailer? Done. The transmission handles downhill engine braking perfectly, too."

Now, to where our 2021 Truck of the Year comes alive: off-road. "Forget about

the engine," Lieberman said, "and concentrate on how, when you put the TRX into Baja mode, it suddenly corners in the dirt like a sports car on concrete."

The TRX has a curb weight of 3.5 tons, yet it feels somehow light, fleet-footed, and tossable while blasting along our favorite desert trails. The Ram's Goodyear rubber no doubt deserves some praise, as it offers up tons of grip and no scrub, but the impeccably tuned shocks deserve much more of the credit. The TRX's Bilsteins simply erase the terrain passing beneath the truck, and they're capable of withstanding some absolutely brutal impacts—such as high-speed, nose-first landings off of moguls—that would send lesser trucks limping home with busted axles and bruised egos. "This is the closest thing you or I will get to a trophy truck," *MotorTrend en Español* managing editor Miguel Cortina said.

It's easy to dismiss the TRX as little more than a desert plaything at first blush, but it's so much more than that. With 11.8 inches of ground clearance to the skidplates; a 30.2-degree approach, 21.9-degree breakover, and 23.5-degree departure angle; steel bumpers, skidplates, and suspension armor; and impressive articulation, it proved itself to be more than capable of the "frame-twisting, hill-scaling,

stair-stepping, and rock-hopping" of a "real" off-roader, Lieberman said. Its girthy hips will be more of an impediment than its underpinnings while off-road.

Speaking of, the Ram 1500 TRX's design—one of our six key criteria for Truck of the Year—generally received praise from our judges. With extensive mechanical changes under the skin, Ram designers had the unenviable task of scaling the Ram 1500's award-winning styling to fit the new off-road hardware and upgraded engine.

Using the Ram 1500 Rebel as the jumping-off point, form largely follows function. Its new Coke-bottle fender flares—composite up front, steel in back—help manage the 8-inch growth in width. Clearance lights get tucked into a new functional hood scoop set in an aluminum hood up front and between the tailgate and rear steel bumper in back. New LED projector headlights, fender vents (functional up front, decorative in the rear), and available options such as combination rock sliders/steps, lightbars, and beadlock-capable wheels round out the package.

The biggest complaint from some judges is that Ram didn't do enough to advance the 1500 TRX's design. "Ram had the chance to do something crazy with the TRX, but it instead looks too similar to the Rebel," Cortina said. But as Evans pointed out, Ram walked the fine line between improving an already stellar design and making it worse: "It's not so much that Ram didn't do enough to make the TRX stand out. It's that Ram had a tougher job making an already good-looking truck look even cooler. Viewed through that lens, it did a commendable job."





These fancy shocks are at the heart of what makes the TRX so great. Their versatility was a major factor in the Truck of the Year win.

Although its exterior styling prompted some debate, all judges agreed on its interior. No other truck maker can match Ram in interior design, fit and finish, or quality. A sort of hybrid between 1500 Rebel and 1500 Limited interiors, the TRX’s cabin is both sporty and luxurious.

Available in three color schemes, the TRX features a unique flat-bottom Alcantara-wrapped steering wheel, new front seats designed to hold occupants in place during hard driving, and a meaty shifter in the center console—the latter freeing space on the dash for four-wheel-drive and drive mode switches. It also gets a new color head-up display and optional carbon-fiber trim. That’s all on top of the great features already baked into the Ram 1500, such as the class-leading tablet-style Uconnect infotainment system, incredibly spacious reclining rear bench seat (heated on our tester), and a crisp-sounding 19-speaker audio system.

Ram TRX occupants will likely be pleased to know that they’re not only comfortable but also safe. The National Highway Traffic Safety Administration has given the Ram 1500 a five-star overall safety rating, and the Insurance Institute for Highway Safety scores the 1500 as Good, its highest possible rating. The TRX is also available with Ram’s suite of semi-autonomous driving features, such



The Ram 1500 TRX’s cabin expertly blends performance and luxury with practicality.



as blind-spot monitors, adaptive cruise control with stop-and-go functionality, lane keep assist, and automatic emergency braking with pedestrian detection.

Value and efficiency were the trickiest of our criteria to overcome. On the former front, there’s no denying that at \$71,690 to start, this Ram is expensive. Our loaded example stickered at \$87,370. Its closest direct competitor, the outgoing 2020 F-150 Raptor SuperCrew, starts at \$58,135, and comparably equipped, it’s priced around \$78,225. That nearly \$9,000 price gap between the two trucks nets the TRX buyer a cabin that rivals the Audi RS and Mercedes-AMGs of the world in luxury, a truck that’s better to drive on-road (not to mention likely more capable off), and 252 more hp and 140 more lb-ft of torque. So the Ram 1500 TRX is expensive, yes, but you get quite a lot of pickup for the money.

As for efficiency, well, there’s no getting around this: Its fuel economy is appallingly bad. Even allowing for the fact that supertrucks (like supercars) aren’t necessarily held to the same moral efficiency standards that a “regular” pickup or car is, the TRX’s 10/14/12 mpg city/highway/combined EPA rating is just plain awful.

In a time when its rival automakers and startups are coming up with novel new ideas to combat climate change—for instance, GMC’s upcoming Hummer EV—Ram’s use of a 6.2-liter supercharged V-8 shows an outdated way of thinking. Ram no doubt knows this; the rest of the 1500 lineup features mild hybrid engines, and it has already announced that it’s working on a full-electric pickup. But for now, the TRX’s inefficiency is a black mark on an otherwise stellar product.

That the TRX is being awarded Truck of the Year in spite of its inefficiency is a testament to how exceptionally well it does against our other five criteria, especially when compared with our other four Truck of the Year finalists this year.

Like the Ram HD in 2020 and the Ram 1500 in 2019, the 2021 Ram 1500 TRX raises the bar for the segment. Through clever engineering solutions and smart design, Ram has reset the standard as to what’s possible in a pickup. This truck is as comfortable on the dragstrip as it is on a good winding road—a vehicle equally at home towing horses or hauling lumber as it is scrabbling up slick rock in Moab or over dunes down in Baja. The Ram 1500 TRX is the world’s first true go-anywhere, do-anything supertruck, and it’s our 2021 Truck of the Year. ■

MOTORTREND TRUCK OF THE YEAR		
POWERTRAIN/CHASSIS		2021 Ram 1500 TRX
DRIVETRAIN LAYOUT	Front-engine, 4WD	
ENGINE TYPE	Supercharged 90-deg V-8, iron block/alum heads	
VALVETRAIN	OHV, 2 valves/cyl	
DISPLACEMENT	376.3 cu in/6,166cc	
COMPRESSION RATIO	9.5:1	
POWER (SAE NET)	702 hp @ 6,100 rpm	
TORQUE (SAE NET)	650 lb-ft @ 4,800 rpm	
REDLINE	5,700 rpm	
WEIGHT TO POWER	10.0 lb/hp	
TRANSMISSION	8-speed automatic	
AXLE/FINAL-DRIVE/LOW RATIO	3.55:1/2.38:1/2.64:1	
SUSPENSION, FRONT; REAR	Control arms, coil springs, adj shocks, anti-roll bar; live axle, coil springs, adj shocks	
STEERING RATIO	16.3:1	
URNS LOCK TO LOCK	2.8	
BRAKES, F; R	15.0-in vented disc; 15.0-in vented disc, ABS	
WHEELS	9.0 x 18-in cast aluminum	
TIRES	325/65R18 121/118T Goodyear Wrangler Territory AT (M+S)	
DIMENSIONS		
WHEELBASE	145.1 in	
TRACK, F/R	74.5/74.1 in	
LENGTH X WIDTH X HEIGHT	232.9 x 88.0 x 80.9 in	
GROUND CLEARANCE	8.0 in	
APPROACH/DEPART ANGLE	30.2/23.5 deg	
TURNING CIRCLE	48.3 ft	
CURB WEIGHT	7,000 lb	
SEATING CAPACITY	5	
HEADROOM, F/R	40.9/39.8 in	
LEGROOM, F/R	40.9/45.2 in	
SHOULDER ROOM, F/R	66.0/65.7 in	
PICKUP BOX L X W X H	67.4 x 66.4 x 21.4 in	
BOX VOLUME	53.9 cu ft	
WIDTH BET WHEELHOUSES	51.0 in	
CARGO LIFT-OVER HEIGHT	38.1 in	
PAYLOAD CAPACITY	1,310 lb	
TOWING CAPACITY	8,100 lb	
TEST DATA		
ACCELERATION TO MPH		
0-30	1.5 sec	
0-40	2.1	
0-50	3.0	
0-60	4.1	
0-60 TOWING 5,200 LB	7.5	
0-70	5.4	
0-80	6.9	
0-90	8.7	
0-100	10.9	
PASSING, 45-65 MPH	2.1	
QUARTER MILE	12.7 sec @ 106.3 mph	
BRAKING, 60-0 MPH	130 ft	
LATERAL ACCELERATION	0.68 g (avg)	
MT FIGURE EIGHT	28.4 sec @ 0.61 g (avg)	
250-FT DOUBLE LANE CHANGE	3.95 sec	
TOP-GEAR REVS @ 60 MPH	1,400 rpm	
CONSUMER INFO		
BASE PRICE	\$71,690	
PRICE AS TESTED	\$87,370	
STABILITY/TRACTION CONTROL	Yes/Yes	
AIRBAGS	6: Dual front, front side, f/r curtain	
BASIC WARRANTY	3 years/36,000 miles	
POWERTRAIN WARRANTY	5 years/60,000 miles	
ROADSIDE ASSISTANCE	5 years/60,000 miles	
FUEL CAPACITY	33.0 gal	
EPA CITY/HWY/COMB ECON	10/14/12 mpg	
ENERGY CONS, CITY/HWY	337/241 kWh/100 miles	
CO2 EMISSIONS, COMB	1.69 lb/mile	
RECOMMENDED FUEL	Unleaded premium	

FASHIONABLE GLAMPING

WORDS SCOTT EVANS PHOTOGRAPHS RENZ DIMAANDAL, DARREN MARTIN

Not many products actually deserve the label “iconic,” but Airstream travel trailers have earned it. Most people can’t tell a matte-white Starcraft from a Chinook or Gulf Stream being towed behind a truck. But catch a glimpse of one of those big aluminum Twinkies going by, and you know exactly what it is.

Airstreams are so associated with the golden era of RVing that boutique “glamping” resorts have popped up around the country consisting entirely of refurbished Airstreams. With the constraints of life in 2020 bringing a desire for socially distant, self-directed escapes, RVs and travel trailers are as popular as ever. What better time, then, to test an Airstream Flying Cloud. We used it as our dead weight in our towing tests for Truck



of the Year. We also lived in it, for a long weekend in the country.

Airstream offers the Flying Cloud in five lengths and 14 floorplans ranging from 23 to 30 feet long and priced from \$78,900 to \$102,400 to start. Depending on configuration, it can sleep up to eight. Our 23FB test unit was the smallest and least expensive model, configured with a queen bed at the front, a full bathroom

with shower at the rear, and the capacity to sleep four if you convert the dining table and banquette into a small bed.

Officially, the dry curb weight is 4,806 pounds as configured, though with a full tank of fresh water and full propane tanks, ours weighed in at 5,200 pounds, leaving 800 pounds of cargo capacity. The tongue weight is listed at a relatively light 467

**AN IDIOSYNCRATIC ICON
DELIVERS THE AURA OF
CLASSIC RV LIFE, BUT AT A COST**





Tons of storage but precious little counter space. Covers for the stove and sink create more, as long as you aren't using those appliances.

The Flying Cloud is light enough to tow with a midsize truck, but we recommend a weight-distributing hitch to keep the trailer stable.



FIRST TEST



pounds. Those specs put it well within the capability of a modern midsize truck, but we'd recommend either a weight-distributing hitch or a bigger truck. The trailer pushes around smaller trucks on a standard ball hitch, despite the numbers.

For the hefty sum of \$78,900, the Flying Cloud 23FB does come well equipped. Outside, it features a 30-amp, 13,500-BTU air conditioner and heat pump, twin propane tanks, an electric tongue jack, and four pull-out awnings to shade the windows. Inside, there's the bathroom and enclosed shower, a three-burner stove, a 5-cubic-foot refrigerator, a microwave, a sound system, and a small TV on an adjustable arm. Ours was further upgraded with a solar panel (connections for solar panels are standard) that easily kept the batteries charged while "dry camping" in a site without hookups; your results will vary with tree and cloud cover.

You do have to put in the work, though. The stabilizer jacks are not powered and aren't strong enough to level the trailer, and they must be cranked down manually. The awnings are also manually deployed and must be unlatched with a long metal stick and quite a bit of trial and error. The main awning on the door side of the trailer is particularly cumbersome with its screw latches, which have to be both unscrewed and flipped off with the stick, and it doesn't get any easier putting it away. The stick itself is stored in a compartment in

the rear bumper that can't be locked and has two bolts for handles that get very hot in the sun.

The windows that do open pop out from the bottom by pushing on rods on either side. Warning labels on each window note they stick in hot weather. They're not kidding. It can be difficult to pop them loose on a hot day. Thankfully, the twin electric vent fans in the ceiling do an excellent job of cycling out hot air.

Once you're set up, though, it's easy camping. The stabilizer jacks limit the movement of the trailer as you walk around—there's a mild shaking at most. The dining table slides out for easier access to the seating. Covers for the kitchen sink and stovetop increase your limited counter space when the appliances are not in use. There's storage everywhere, from cabinets above the kitchen and dining areas to space under the seats, as well as vertical closets and under-bed storage.

LED lighting throughout keeps your power usage low when you're not hooked up to ground power, and outlets connected to a 110-volt inverter are conveniently placed in the bathroom, dining, and sleeping areas. The optional solar panel is a must-have if you plan to camp outside traditional RV parks or other locations with access to electricity, as you can easily burn through the batteries in a day.



It also helps to know a few RVing tricks. Although the water heater works the moment you turn it on, other appliances take time. The pilot on the gas oven will need to be relit every time you turn off the gas. If you're running the fridge on propane rather than electricity (mandatory if you don't have hookups), it takes hours to cool down, so you should start it well before you plan to use it. We didn't run out of propane running the fridge, stove, oven, and water heater, but a gauge on the tanks would take a load off our minds.

Those aren't the only tanks you want to watch, either. The 37-gallon fresh water tank lasted the duration of the trip, but only because we were careful to minimize dish washing and only took a few short showers. The 37-gallon gray water and 17-gallon black water tanks can handle the onboard fresh water but are much more involved to dump if you add water to the fresh tank and run out of waste capacity. Of course, cutting showers short is easy to do in such a small enclosure. No matter the floorplan, your headroom is limited by the Airstream's curved ceiling.

It's just one of the many compromises you accept in trade for the midcentury-cool Airstream aesthetic. Starting at



THE FLYING CLOUD IS WELL WITHIN THE CAPABILITY OF A MODERN MIDSIZE TRUCK.





With more and bigger windows than a typical travel trailer, the Airstream is awash in natural light.



nearly \$80,000, the Flying Cloud is at least twice the price of some similarly sized competitors, and it comes with far fewer features—little things like powered awnings and stabilizer jacks, fireplaces, and larger TVs. It also misses bigger things like slide-outs—those pop-out sections on the sides of travel trailers and RVs that greatly increase interior space. Airstream doesn't do them, so you have to squeeze

past other occupants all the time. Plus, there's limited seating space. Forget about outdoor kitchens, too (though at least there's an external gas hookup for a camp stove or grille).

More than that, our Flying Cloud had a number of small issues unbecoming of such an expensive unit. The sheet aluminum comes from the supplier with a plastic layer to protect it, and many of the interior rivets still had bits of plastic stuck to them where it had been peeled off after installation. One rivet, directly above the head of the bed, was missing altogether. Nearby, the electrical outlet next to the bed only half worked; the USB ports were functional, but the 110-volt plugs were not. One of the speaker grilles above the bed and one of the hinge covers in a cabinet continually fell off in transit. The cushions for the banquette are each held on by a single strip of Velcro and would



inevitably be found scattered across the floor after towing.

Then there were the bigger issues. The powered tongue jack was nice, but it had no limit switches at the ends of its travel. If you didn't let go of the switch in time, the jack would lock up and the motor housing would twist itself out of your hand and around the jack until it jammed against the propane tank enclosure, damaging the enclosure. None of the interior walls fit flush with the walls of the trailer, with gaps as large as they were uneven. The furniture looked like it had come from Ikea, and the vinyl floor was unimpressive—especially considering less expensive competitors offer hardwood.

As much as we enjoyed glamping in the Flying Cloud, we couldn't shake the impression you're paying a premium for the Airstream style (and lifestyle) more than anything. The look is iconic, and icons cost money. A lot of it. In trade, you're giving up amenities commonly found in trailers costing far less.

As people who glorify supercars that lack features you'd find in a base model Kia, we understand, in principle. In practice, however, the compromises add up quickly. ■



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Alleggerita HLT	Gran Turismo HLT	Indy HLT	Hyper GT HLT	Ultraleggera HLT	Eagle AE900	Eagle AE901
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SPARCO	SPARCO	SPARCO	SPARCO	ENKEI	ENKEI	ENKEI
Assetto Gara	DRS	FF-1	Pro Corsa	Racing RPF1	Tuning Raijin	Tuning TSR-X
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POWER

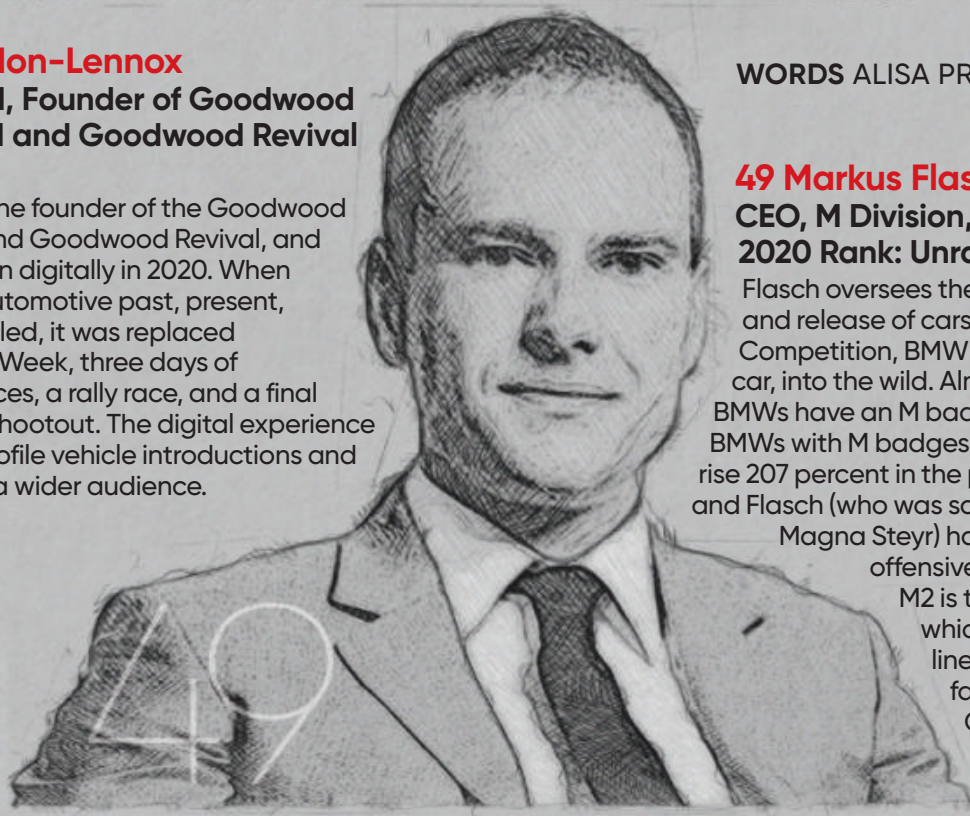
2021 MOTORTREND PERSON OF THE YEAR: WHO SHONE DURING A DIFFICULT YEAR?



50 Charles Gordon-Lennox

Duke of Richmond, Founder of Goodwood Festival of Speed and Goodwood Revival
2020 Rank: 8

Gordon-Lennox is the founder of the Goodwood Festival of Speed and Goodwood Revival, and he ensured it lived on digitally in 2020. When the celebration of automotive past, present, and future was canceled, it was replaced by Goodwood SpeedWeek, three days of livestreamed track races, a rally race, and a final timed lap to win the Shootout. The digital experience still attracted high-profile vehicle introductions and brought the event to a wider audience.



WORDS ALISA PRIDDLE

49 Markus Flasch

CEO, M Division, BMW
2020 Rank: Unranked

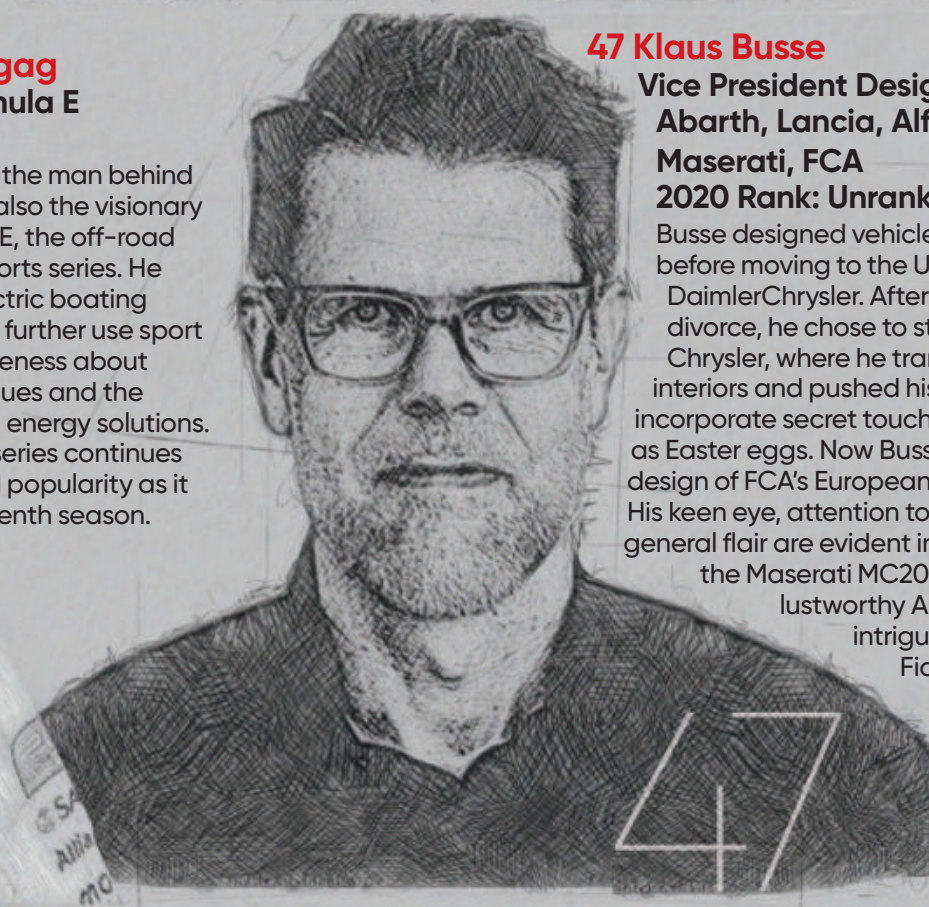
Flasch oversees the development and release of cars like the M8 Competition, BMW's fastest road car, into the wild. Almost half of all BMWs have an M badge or M trim line; BMWs with M badges have seen sales rise 207 percent in the past five years, and Flasch (who was scooped up from Magna Steyr) has a nine-model offensive underway. The M2 is the base from which he is building the lineup; his personal favorite is the M2 CS with a manual transmission.



48 Alejandro Agag

Chairman, Formula E
2020 Rank: 37

Agag is not only the man behind Formula E; he is also the visionary behind Extreme E, the off-road electric motorsports series. He is adding an electric boating championship to further use sport to promote awareness about global climate issues and the adoption of clean energy solutions. His electric racing series continues to grow in scale and popularity as it enters its seventh season.



47 Klaus Busse

Vice President Design for Fiat, Abarth, Lancia, Alfa Romeo, Maserati, FCA
2020 Rank: Unranked

Busse designed vehicles for Daimler before moving to the U.S. as part of DaimlerChrysler. After the corporate divorce, he chose to stay with Chrysler, where he transformed interiors and pushed his team to incorporate secret touches known as Easter eggs. Now Busse oversees design of FCA's European brands. His keen eye, attention to detail, and general flair are evident in the lines of the Maserati MC20 supercar, lustworthy Alfas, and intriguing ideas for Fiat.

It was a year dominated by a pandemic. At its nadir, automakers stopped making cars, dealerships closed their showrooms, and some OEMs and suppliers used their plants to make masks and ventilators to help hospitals cope with the patient load.

Some vehicle programs were delayed, costs were cut, and key unveils went ahead virtually instead of at auto shows. Hundreds of thousands

of white-collar employees worked from home, buyers purchased cars online, and discounts were rolled out to keep sales from tanking.

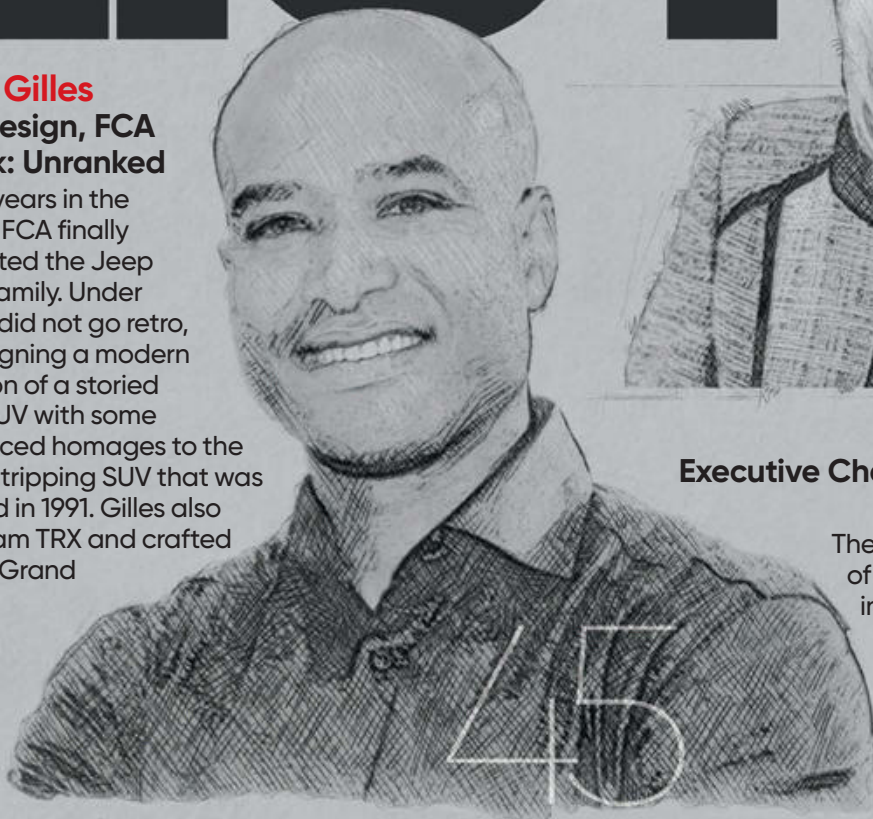
It was a year of unusual challenges, but many people rose above and found ways to make their work shine. The auto industry has always been resilient, and 2020 showed that to be the case. We honor the 50 people named to the 2021 *MotorTrend* Power List.

LIST

45 Ralph Gilles

Head of Design, FCA
2020 Rank: Unranked

It has been years in the making, but FCA finally has resurrected the Jeep Wagoneer family. Under Gilles, Jeep did not go retro, instead designing a modern interpretation of a storied three-row SUV with some carefully placed homages to the family road-tripping SUV that was discontinued in 1991. Gilles also gave us a Ram TRX and crafted a new Jeep Grand Cherokee.



46 Joy Falotico

President, Lincoln, Ford Motor Company
2020 Rank: 12

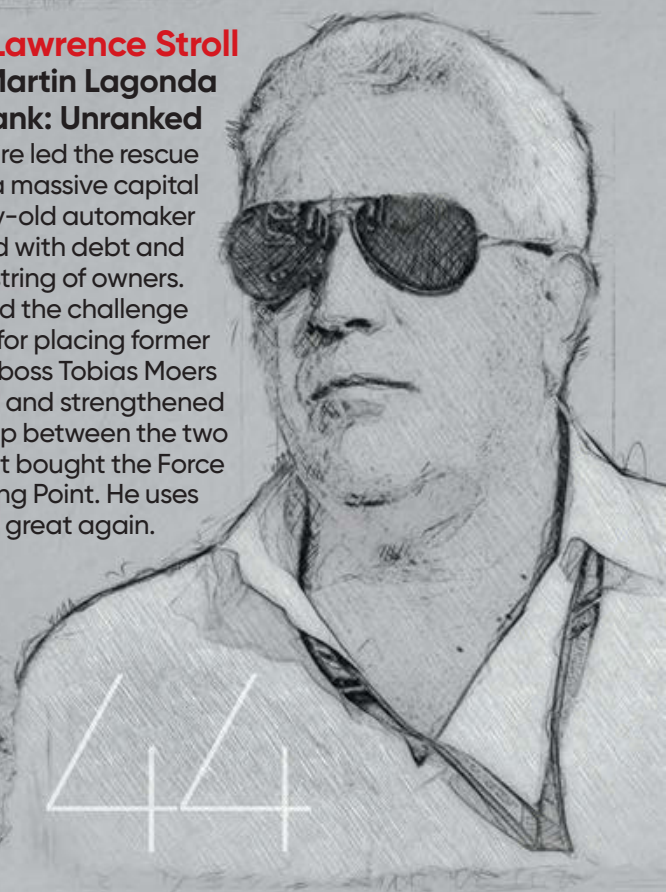
Lincoln has become a stronger player. The American luxury brand's vehicles have stunning design, premium powertrains, and additional tech compared with their Ford counterparts, plus a concierge service for customers. Under Falotico, Lincoln has found its lane as a quiet, refined luxury brand—an elegant cocoon—filling a space Lexus vacated as it chased performance. She has overseen a series of smart moves in restoring the storied American brand.



44 Lawrence Stroll

Executive Chairman, Aston Martin Lagonda
2020 Rank: Unranked

The Canadian billionaire led the rescue of Aston Martin with a massive capital infusion. The century-old automaker has struggled with debt and profit through a string of owners. Stroll embraced the challenge and pushed for placing former Mercedes-AMG boss Tobias Moers in charge as CEO and strengthened the relationship between the two firms. Stroll also led the group that bought the Force India F1 team and renamed it Racing Point. He uses his wealth to make storied brands great again.



43 Takahiro Hachigo

CEO, Honda
2020 Rank: 30

Hachigo was appointed CEO in 2015 to lead Honda out of a slump. He closed plants and halted expansion plans. He will pull Honda out of Formula 1 after the 2021 season to focus resources on fuel cell, electric, and other green vehicles. Most Honda presidents serve six-year terms, so the Civic arriving in 2021 could be his swan song.



42 Gretchen Sorin

Author, *Driving While Black*
2020 Rank: Unranked

The distinguished professor at SUNY Oneonta wrote the compelling work (and accompanying PBS documentary) that chronicles the decades of Black motorists' struggle for equality on America's roads—bringing to light a distressing chapter in our nation's history that still manifests today.



41 Bryan Salesky

Co-Founder and CEO, Argo AI
2020 Rank: 48

Volkswagen finalized the deal to invest billions in Argo AI, a Pittsburgh-based startup, and have the tech company take over VW's self-driving unit, increasing Argo's value and making it a force on two continents. Meanwhile, Ford will use the Escape Hybrid to launch its self-driving business, where testing of Argo's fourth-generation technology has begun. The tech will support Ford's planned self-driving commercial vehicles, which will launch in 2022.



40 Kyle Vogt

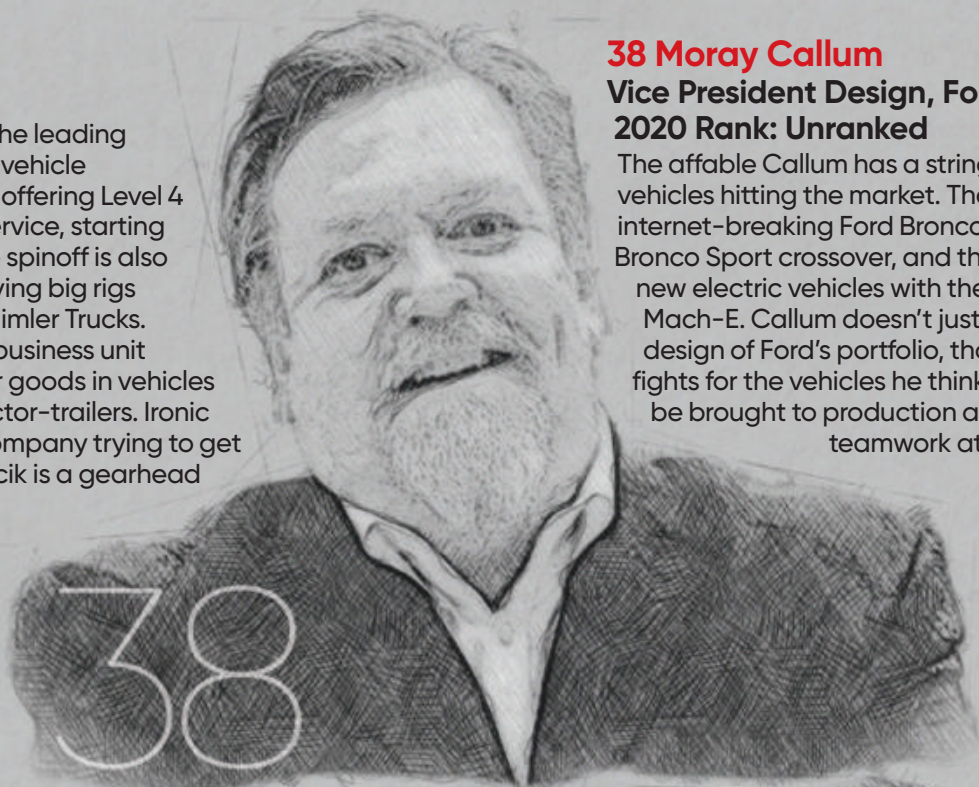
Co-Founder and Chief Technology Officer, Cruise AV
2020 Rank: 49

The pace continues to quicken at Cruise AV. The self-driving car company unveiled the Cruise Origin, a six-passenger driverless robo-taxi, which will be built at a General Motors plant in Detroit-Hamtramck in early 2022. Cruise also received permission for fully driverless testing in San Francisco. It is not alone in receiving a California permit but could be first to put driverless vehicles on public roads. A commercial version of the Origin is also planned.



**39 John Krafcik****CEO, Waymo
2020 Rank: 22**

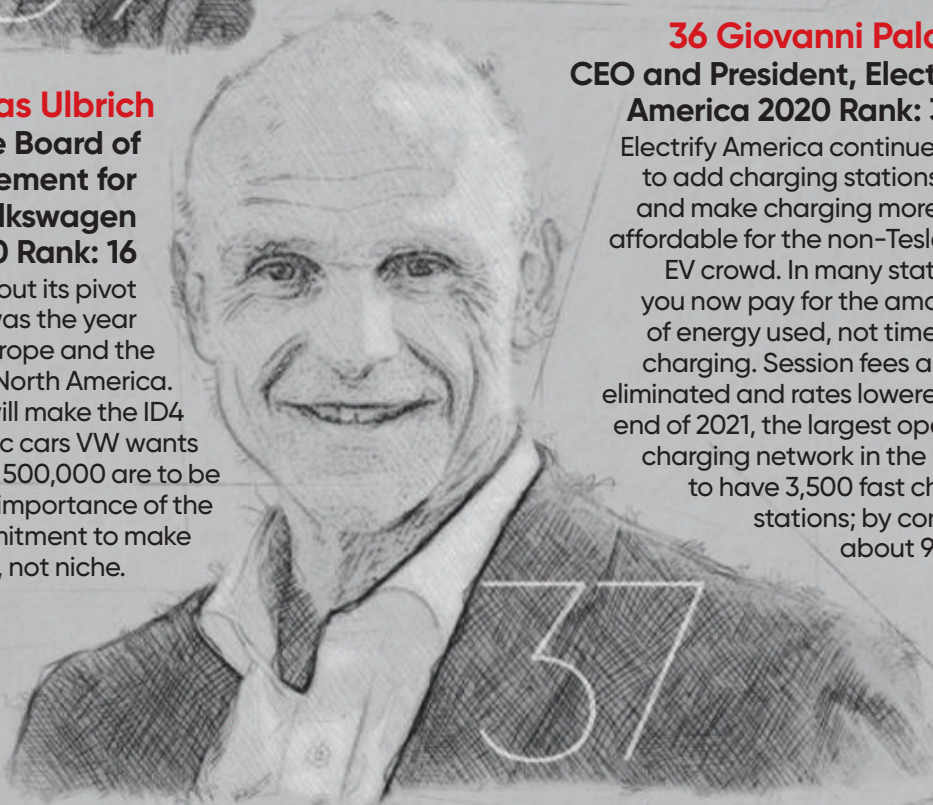
Waymo continues to be the leading supplier of autonomous vehicle technology and began offering Level 4 (driverless) robo-taxi service, starting in Phoenix. The Google spinoff is also branching into self-driving big rigs in a partnership with Daimler Trucks. And Waymo added a new business unit called Waymo Via to deliver goods in vehicles ranging from minivans to tractor-trailers. Ironical touch: Despite working for a company trying to get individuals to stop driving, Krafcik is a gearhead who loves Porsche 911s.

**38 Moray Callum****Vice President Design, Ford Motor Co.
2020 Rank: Unranked**

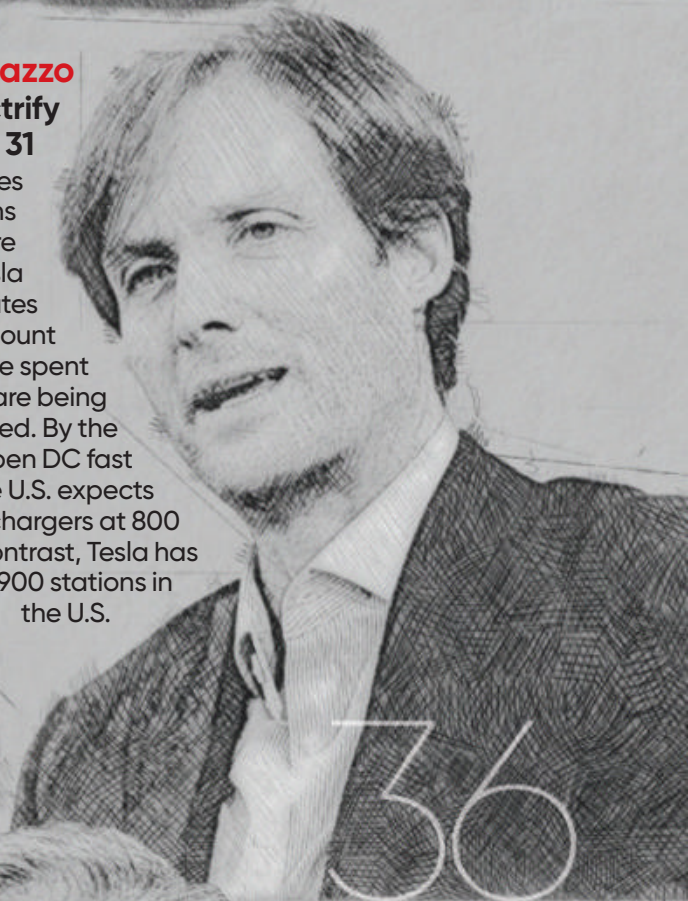
The affable Callum has a string of crucial vehicles hitting the market. There is the internet-breaking Ford Bronco, the intriguing Bronco Sport crossover, and the foray into new electric vehicles with the Mustang Mach-E. Callum doesn't just oversee the design of Ford's portfolio, though. He also fights for the vehicles he thinks should be brought to production and fosters teamwork at the Blue Oval.

37 Thomas Ulbrich
Member of the Board of Management for E-Mobility, Volkswagen
2020 Rank: 16

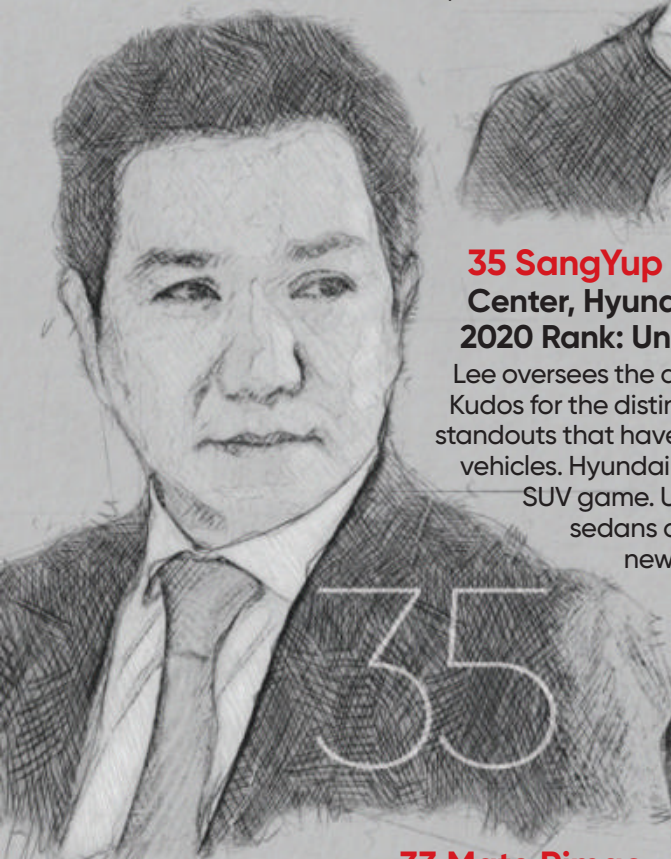
Volkswagen keeps talking about its pivot to electric vehicles, but this was the year that the ID3 went on sale in Europe and the larger ID4 was unveiled for North America. VW's plant in Chattanooga will make the ID4 by 2022. Of the 1.5 million electric cars VW wants to sell annually by 2025, a full 500,000 are to be the ID4. This underscores the importance of the SUV and Volkswagen's commitment to make EVs mainstream, not niche.

**36 Giovanni Palazzo****CEO and President, Electrify America 2020 Rank: 31**

Electrify America continues to add charging stations and make charging more affordable for the non-Tesla EV crowd. In many states you now pay for the amount of energy used, not time spent charging. Session fees are being eliminated and rates lowered. By the end of 2021, the largest open DC fast charging network in the U.S. expects to have 3,500 fast chargers at 800 stations; by contrast, Tesla has about 900 stations in the U.S.


35 SangYup Lee Head of the Hyundai Global Design Center, Hyundai Motor Company
2020 Rank: Unranked

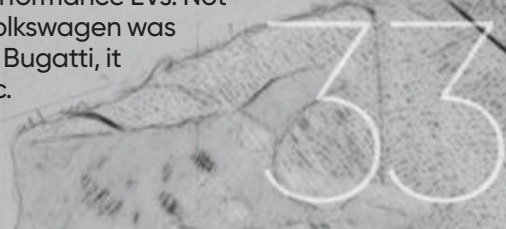
Lee oversees the design of the Hyundai and Genesis brands. Kudos for the distinctiveness between the brands and a long list of standouts that have buyers taking notice, even among entry-level vehicles. Hyundai has kept cars fun and relevant while upping its SUV game. Under Lee, Genesis is defining itself with elegant sedans and its first SUVs with lovely interiors. Although the new GV70 SUV may be controversial, there have been no real missteps, and more new vehicles are still to come.


34 Michael Mauer
Director of Style, Porsche
2020 Rank: 42

Porsches are arguably perfectly designed. Tampering with the iconic shape is a balancing act. Which means Mauer has the hardest job in design, and he does it the best in the business. He is only the third design chief since Ferdinand Porsche himself. And he is the one to continue the brand's journey into crossovers and electric vehicles while exciting enthusiasts with variants such as the GT3 and GT2.

33 Mate Rimac
Founder, Rimac Automobili
2020 Rank: 9

Rimac is the excellence center for ultra-high-performance electric vehicles—the Tesla of Europe for extreme acceleration. In addition to its own hypercars, Rimac is where Aston Martin and Bugatti went for help with their supercars. Porsche owns a stake in Rimac—as does Hyundai and Kia, which have a deal for two high-performance EVs. Not surprisingly, when Volkswagen was looking for a buyer for Bugatti, it approached Rimac.

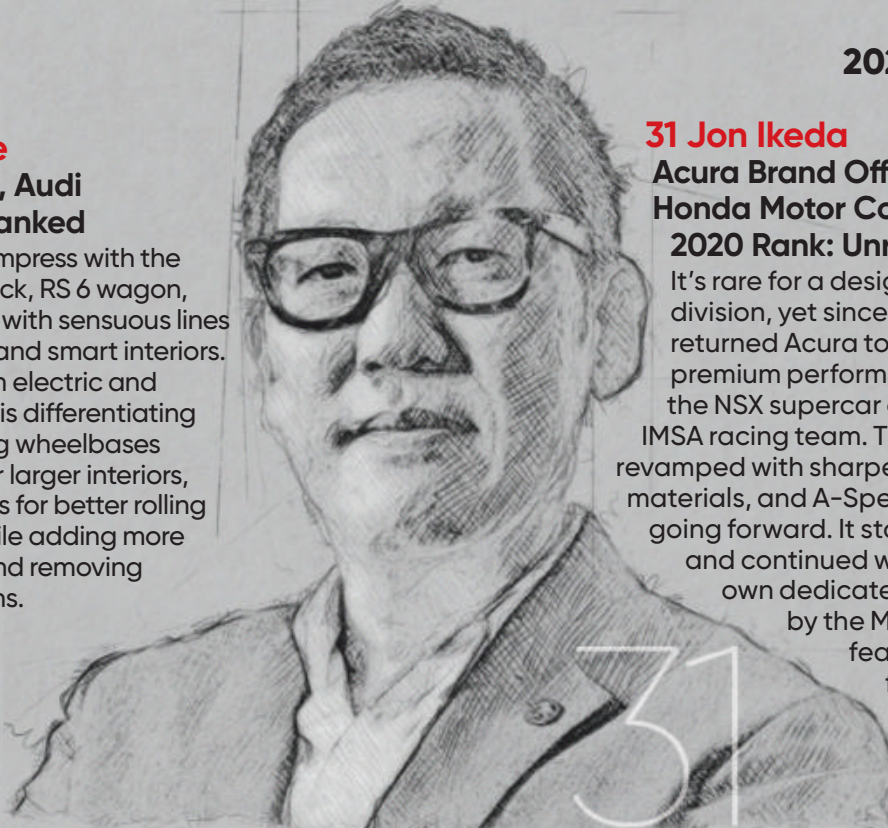




32 Marc Lichte
Head of Design, Audi
2020 Rank: Unranked

Audi continues to impress with the striking RS 7 fastback, RS 6 wagon, Q8, and E-Tron GT, with sensuous lines and clean, unified, and smart interiors. As Audi evolves to an electric and digitalized future, Lichte is differentiating the new models with long wheelbases and shorter overhangs for larger interiors, as well as narrower tires for better rolling resistance, while adding more screens and removing buttons.

32



31 Jon Ikeda
Acura Brand Officer,
Honda Motor Company
2020 Rank: Unranked

It's rare for a designer to run a car division, yet since 2015 Ikeda has returned Acura to its roots as a premium performance marque with the NSX supercar and a winning IMSA racing team. The lineup is being revamped with sharper styling, upscale materials, and A-Spec and Type S models going forward. It started with the RDX and continued with the new TLX on its own dedicated platform, followed by the MDX SUV. Quite the feat to secure resources for performance variants for a brand existing in just a single region.

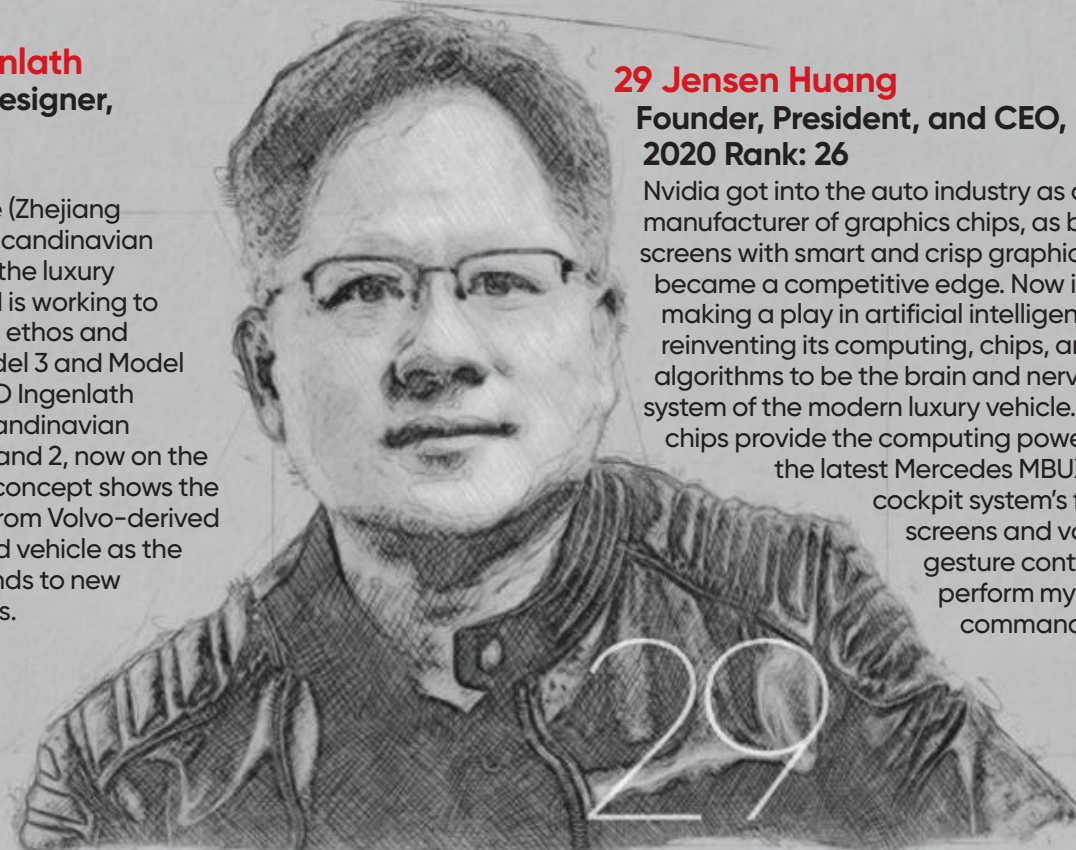
31



30 Thomas Ingenlath
CEO and Chief Designer,
Polestar
2020 Rank: 40

Thanks to its Chinese (Zhejiang Geely Holding) and Scandinavian (Volvo Cars) parents, the luxury electric vehicle brand is working to create its own unique ethos and challenge Tesla's Model 3 and Model Y. Designer turned CEO Ingenlath embraces Polestar's Scandinavian roots with the Polestar 1 and 2, now on the market, but the Precept concept shows the desire to break away from Volvo-derived styling for its third vehicle as the brand expands to new markets.

30



29 Jensen Huang
Founder, President, and CEO, Nvidia
2020 Rank: 26

Nvidia got into the auto industry as a manufacturer of graphics chips, as big screens with smart and crisp graphics became a competitive edge. Now it is making a play in artificial intelligence, reinventing its computing, chips, and algorithms to be the brain and nervous system of the modern luxury vehicle. Nvidia chips provide the computing power behind the latest Mercedes MBUX AI cockpit system's five screens and voice/gesture control to perform myriad commands.

29



28 Alan Bethke
Senior Vice President of Marketing,
Subaru of America
2020 Rank: 10

Good marketing sticks with what works. Subaru knows its buyers and speaks to them with ads that promote families, dogs, and enjoying the great outdoors. The ads are clever and on point. They foster buyer loyalty and strong sales, as evidenced by the recent Guinness World Record for the largest parade of same-make vehicles with 1,751 Subarus at a Subiefest in California. The automaker also contributes to communities and charities, part of its annual Share the Love event.

28

27 Albert Biermann
President and Head of R&D Division,
Hyundai Motor/Kia Motors
2020 Rank: 47

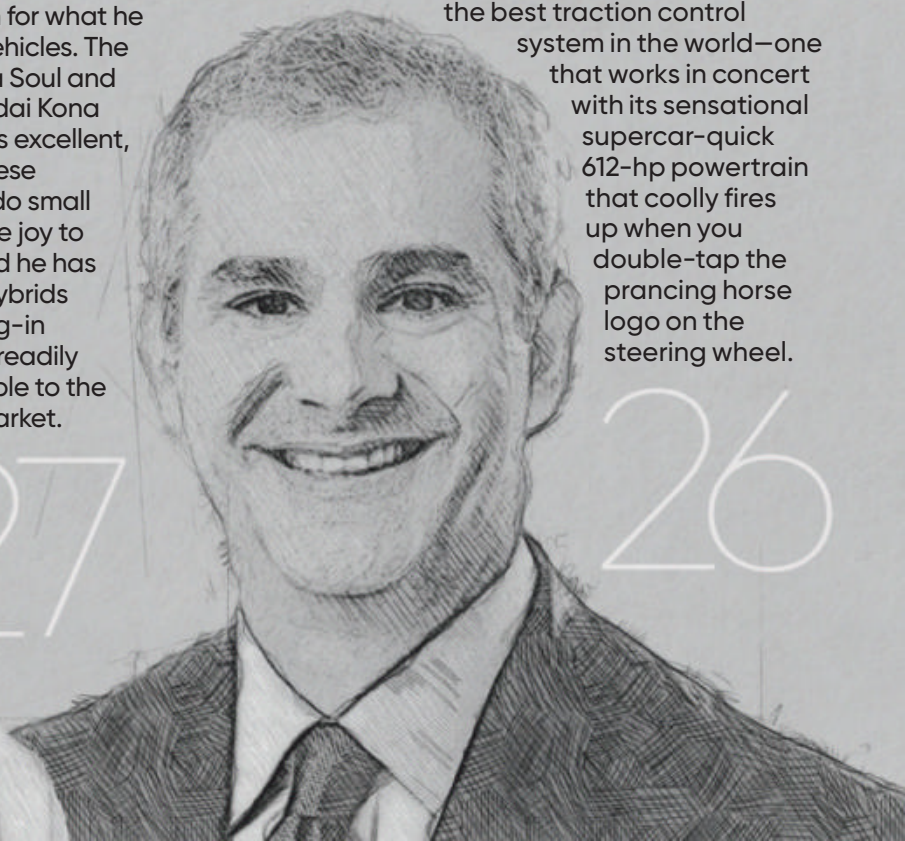
We love Biermann for the performance he injected into the Hyundai and Kia brands, especially as he adds N variants up and down the lineup. But we also salute him for what he has done with the mainstream vehicles. The shared platform for the stellar Kia Soul and Seltos and Hyundai Kona and Venue is excellent, making these hard-to-do small cars a true joy to drive. And he has made hybrids and plug-in hybrids readily accessible to the mass market.

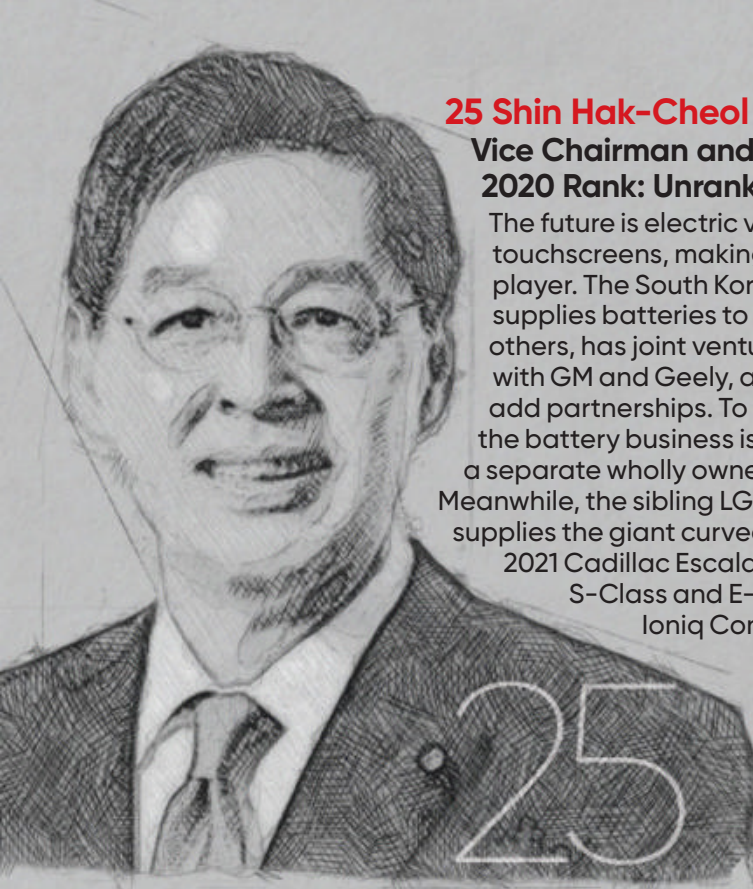
27

26 Michael Leiters
Chief Technology Officer, Ferrari
2020 Rank: Unranked

You don't automatically associate Ferrari with safety, but no one else builds a car where nannies work so well with you instead of cramping your driving style. The "entry-level" Roma has arguably the best traction control system in the world—one that works in concert with its sensational supercar-quick 612-hp powertrain that coolly fires up when you double-tap the prancing horse logo on the steering wheel.

26

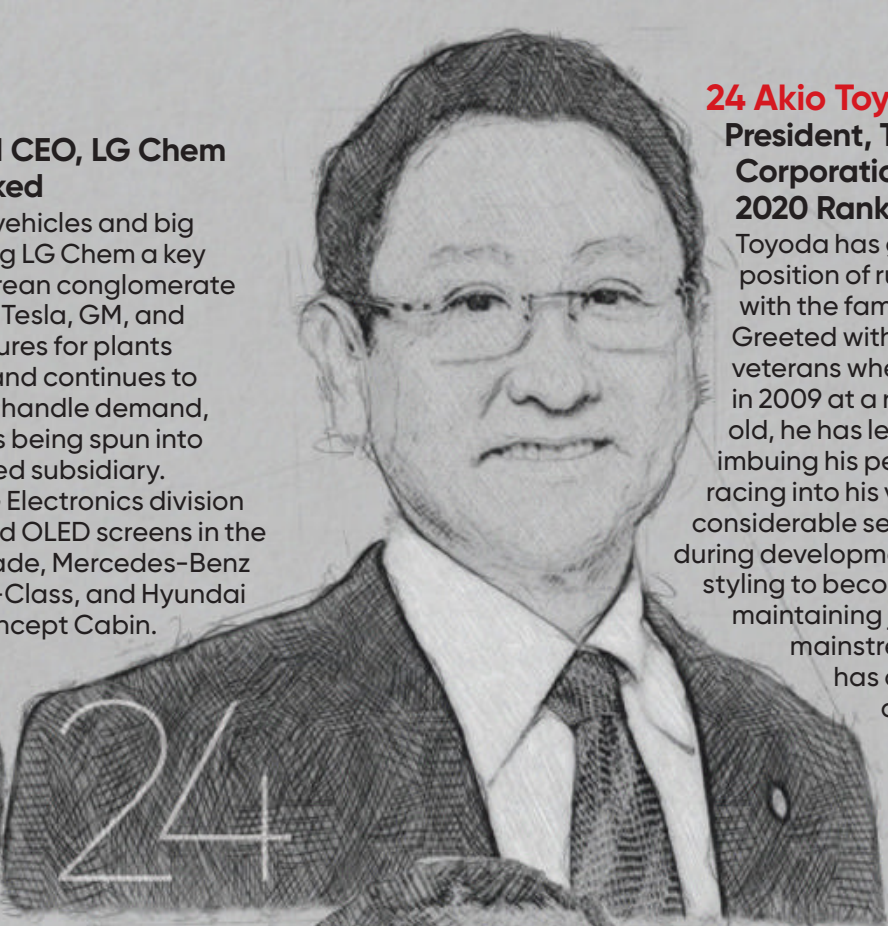




25 Shin Hak-Cheol

Vice Chairman and CEO, LG Chem
2020 Rank: Unranked

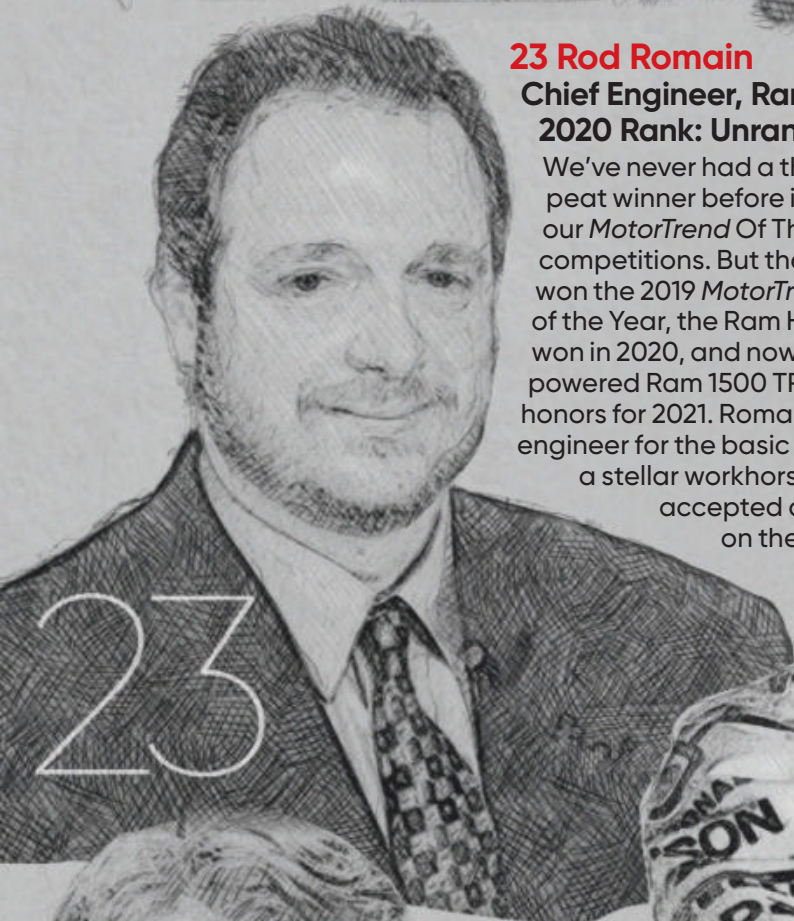
The future is electric vehicles and big touchscreens, making LG Chem a key player. The South Korean conglomerate supplies batteries to Tesla, GM, and others, has joint ventures for plants with GM and Geely, and continues to add partnerships. To handle demand, the battery business is being spun into a separate wholly owned subsidiary. Meanwhile, the sibling LG Electronics division supplies the giant curved OLED screens in the 2021 Cadillac Escalade, Mercedes-Benz S-Class and E-Class, and Hyundai Ioniq Concept Cabin.



24 Akio Toyoda

President, Toyota Motor Corporation
2020 Rank: 21

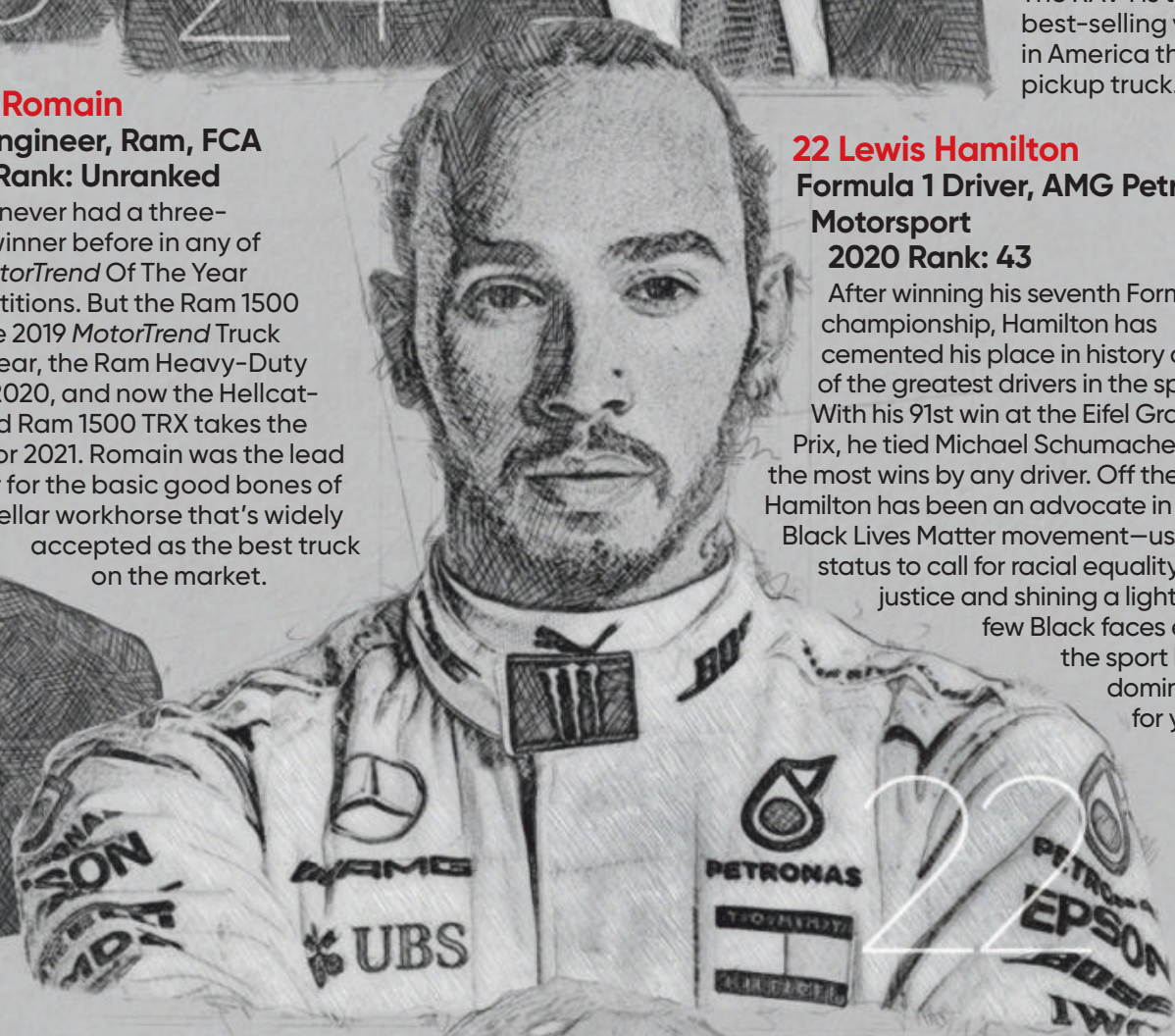
Toyoda has grown well into the position of running the company with the family name on the building. Greeted with grumblings from Toyota veterans when he became president in 2009 at a relatively callow 53 years old, he has led with a steady hand, imbuing his personal passion for racing into his vehicles and spending considerable seat time in prototypes during development. Toyota has pushed styling to become more audacious while maintaining juggernaut status with mainstream-focused vehicles. It has also introduced hybrids and other variants easily accommodated within Toyota's flexible manufacturing system. The RAV4 is the best-selling vehicle in America that isn't a pickup truck.



23 Rod Romain

Chief Engineer, Ram, FCA
2020 Rank: Unranked

We've never had a three-peat winner before in any of our *MotorTrend* Of The Year competitions. But the Ram 1500 won the 2019 *MotorTrend* Truck of the Year, the Ram Heavy-Duty won in 2020, and now the Hellcat-powered Ram 1500 TRX takes the honors for 2021. Romain was the lead engineer for the basic good bones of a stellar workhorse that's widely accepted as the best truck on the market.



22 Lewis Hamilton

Formula 1 Driver, AMG Petronas Motorsport
2020 Rank: 43

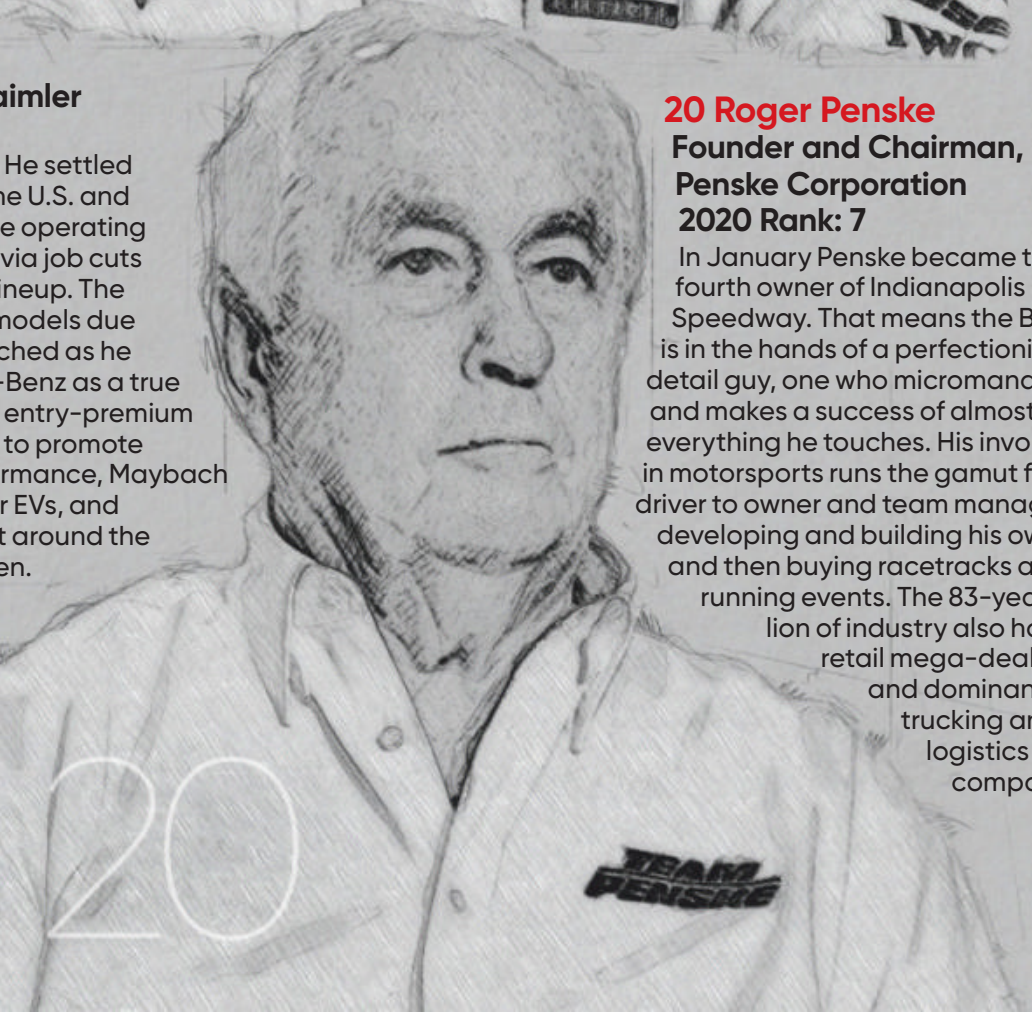
After winning his seventh Formula 1 championship, Hamilton has cemented his place in history as one of the greatest drivers in the sport. With his 91st win at the Eifel Grand Prix, he tied Michael Schumacher for the most wins by any driver. Off the track, Hamilton has been an advocate in the Black Lives Matter movement—using his status to call for racial equality and justice and shining a light on how few Black faces exist in the sport he has dominated for years.



21 Ola Källenius

Chairman and CEO, Daimler
2020 Rank: 25

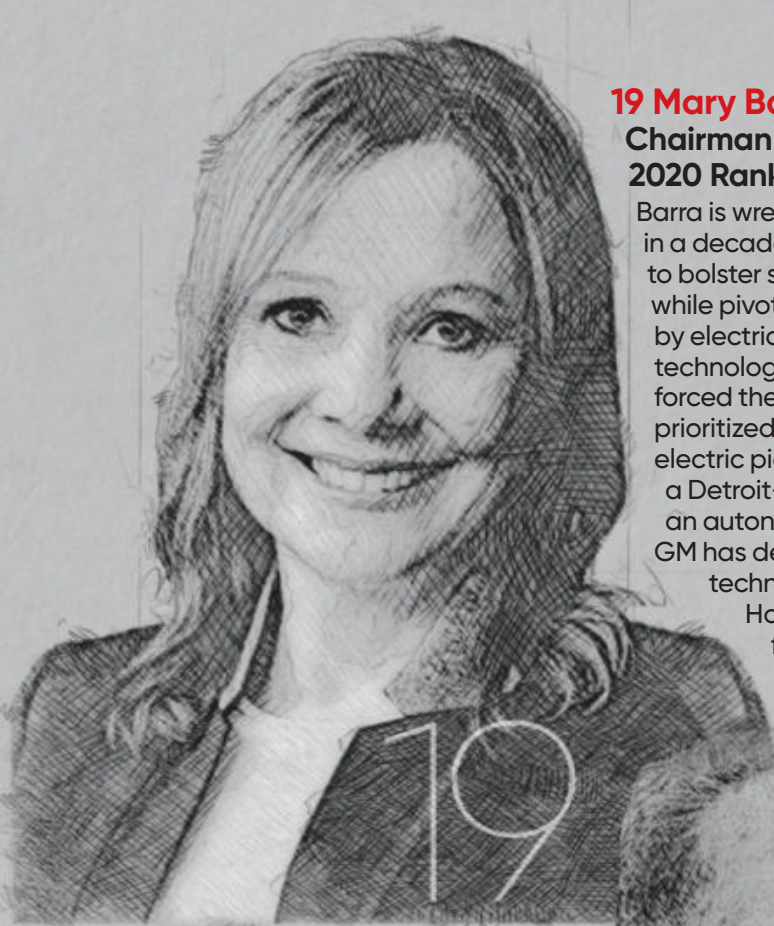
Källenius has his hands full. He settled diesel emissions claims in the U.S. and is executing a plan to reduce operating costs by 20 percent by 2025 via job cuts and a pared-down product lineup. The focus is on EVs, with four new models due next year. A new S-Class launched as he works to reposition Mercedes-Benz as a true luxury brand while also selling entry-premium vehicles. Meanwhile, he works to promote subbrands: AMG for performance, Maybach for elite luxury, EQ for EVs, and even one built around the G-Wagen.



20 Roger Penske

Founder and Chairman, Penske Corporation
2020 Rank: 7

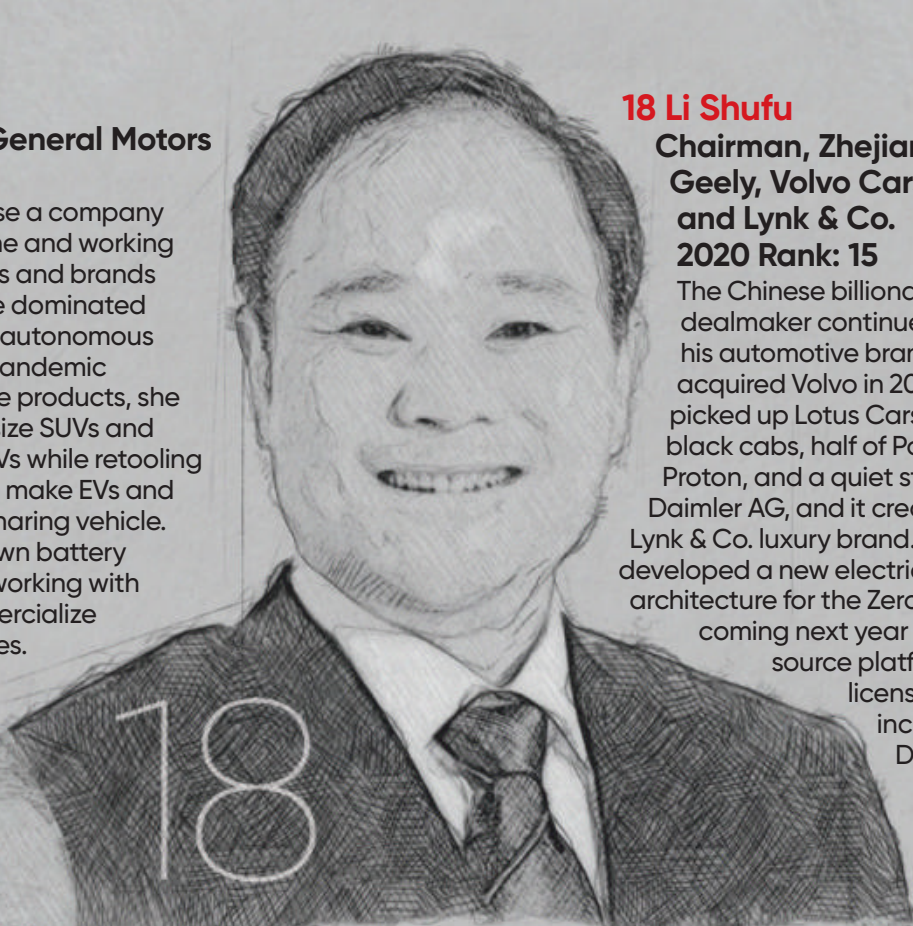
In January Penske became the fourth owner of Indianapolis Motor Speedway. That means the Brickyard is in the hands of a perfectionist and detail guy, one who micromanages and makes a success of almost everything he touches. His involvement in motorsports runs the gamut from driver to owner and team manager, developing and building his own cars, and then buying racetracks and running events. The 83-year-old lion of industry also has car retail mega-dealerships and dominant trucking and logistics companies.



19 Mary Barra

**Chairman and CEO, General Motors
2020 Rank: 6**

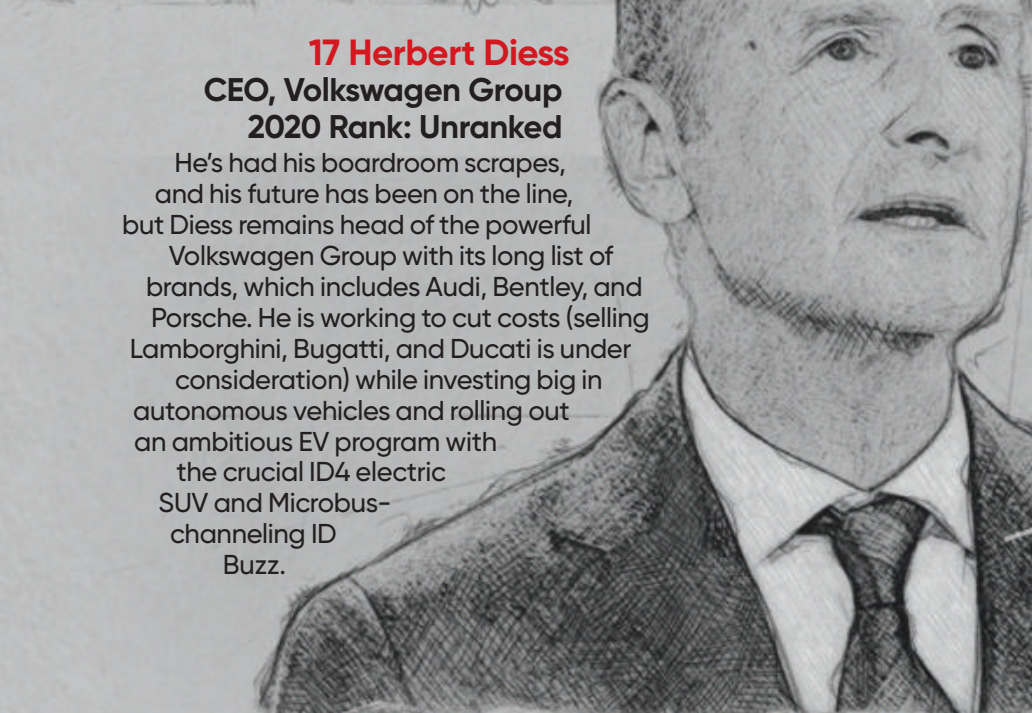
Barra is wrestling to reverse a company in a decades-long decline and working to bolster storied vehicles and brands while pivoting to a future dominated by electric vehicles and autonomous technology. When the pandemic forced the delay of some products, she prioritized the new full-size SUVs and electric pickups and SUVs while retooling a Detroit-area plant to make EVs and an autonomous ride-sharing vehicle. GM has developed its own battery technology and is working with Honda to commercialize fuel cell vehicles.



18 Li Shufu

**Chairman, Zhejiang Geely, Volvo Cars, and Lynk & Co.
2020 Rank: 15**

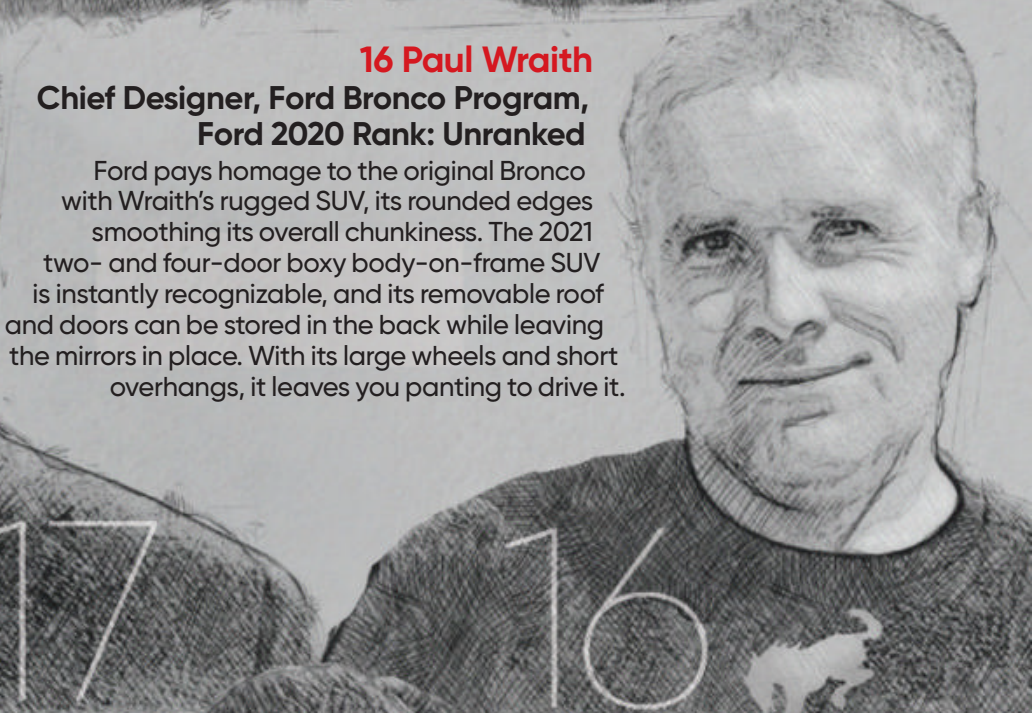
The Chinese billionaire and dealmaker continues to grow his automotive brands. Geely acquired Volvo in 2010 and has picked up Lotus Cars, London's black cabs, half of Polestar, Proton, and a quiet stake in Daimler AG, and it created the Lynk & Co. luxury brand. Geely developed a new electric vehicle architecture for the Zero concept coming next year on an open-source platform it will license to others, including Daimler.



17 Herbert Diess

**CEO, Volkswagen Group
2020 Rank: Unranked**

He's had his boardroom scrapes, and his future has been on the line, but Diess remains head of the powerful Volkswagen Group with its long list of brands, which includes Audi, Bentley, and Porsche. He is working to cut costs (selling Lamborghini, Bugatti, and Ducati is under consideration) while investing big in autonomous vehicles and rolling out an ambitious EV program with the crucial ID4 electric SUV and Microbus—channeling ID Buzz.



16 Paul Wraith

**Chief Designer, Ford Bronco Program,
Ford 2020 Rank: Unranked**

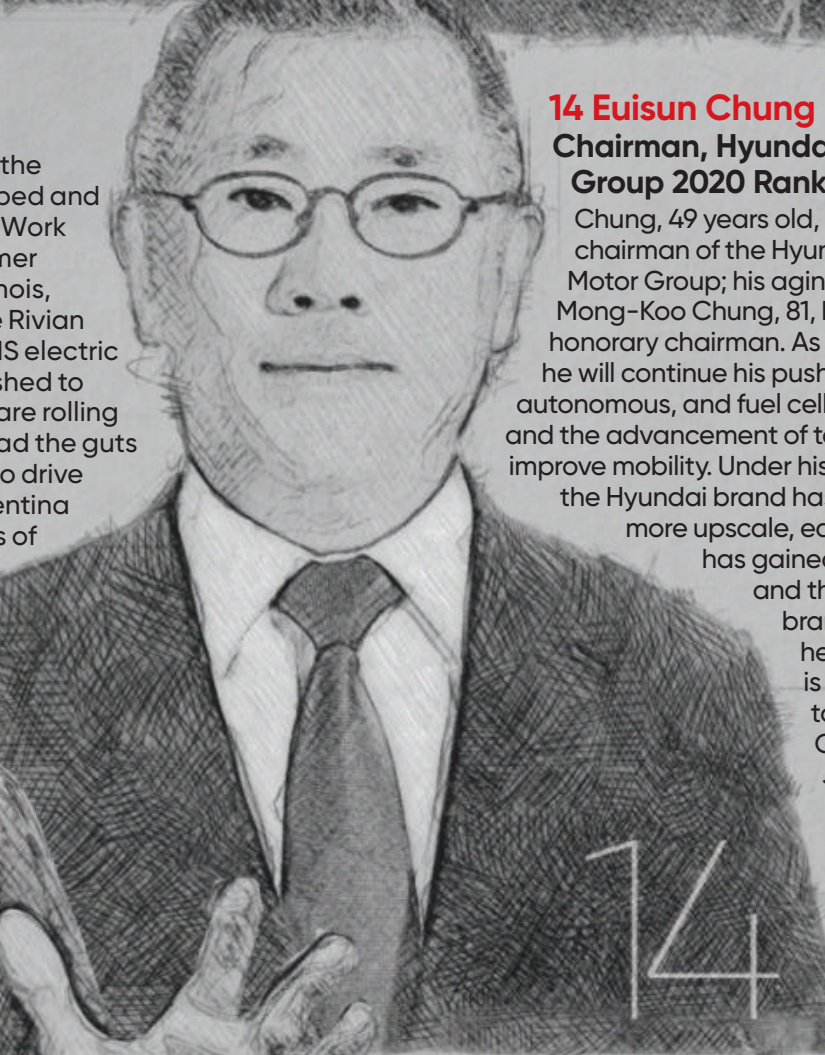
Ford pays homage to the original Bronco with Wraith's rugged SUV, its rounded edges smoothing its overall chunkiness. The 2021 two- and four-door boxy body-on-frame SUV is instantly recognizable, and its removable roof and doors can be stored in the back while leaving the mirrors in place. With its large wheels and short overhangs, it leaves you panting to drive it.



15 RJ Scaringe

**Founder and CEO, Rivian
Automotive 2020 Rank: 3**

Rivian has shown prototypes of the electric delivery vans it developed and will manufacture for Amazon. Work also continues to retool a former Mitsubishi plant in Normal, Illinois, that will make those vans, the Rivian R1T electric pickup, and the R1S electric SUV. Production has been pushed to summer 2021, but early builds are rolling off the line now. Scaringe even had the guts to allow two raw prototype R1Ts to drive from the southern tip of Argentina to Los Angeles in the hands of Ewan McGregor for a TV show.



14 Euisun Chung

Chairman, Hyundai Motor Group 2020 Rank: 11

Chung, 49 years old, is now chairman of the Hyundai Motor Group; his aging father, Mong-Koo Chung, 81, becomes honorary chairman. As chairman he will continue his push to electric, autonomous, and fuel cell vehicles and the advancement of tech to improve mobility. Under his leadership the Hyundai brand has moved more upscale, edgier Kia has gained stature, and the Genesis brand he helped create is going toe to toe with its German and Japanese luxury rivals.



13 Nick Rogers

Executive Director, Product Engineering, Jaguar Land Rover
2020 Rank: Unranked

The 2020 Land Rover Defender was the clear 2021 *MotorTrend* SUV of the Year winner. In addition to the modern styling of the icon, we salute the engineering behind this rebirth. The previously agricultural Defender returns with an aluminum body, independent suspension, and a smooth relationship between its gutsy inline-six engine and eight-speed automatic transmission—giving it impressive on-road performance without sacrificing its legendary ability to tackle any terrain.



12 Michael Kelz

Chief Engineer, Mercedes-Benz E-Class, Daimler
2020 Rank: Unranked

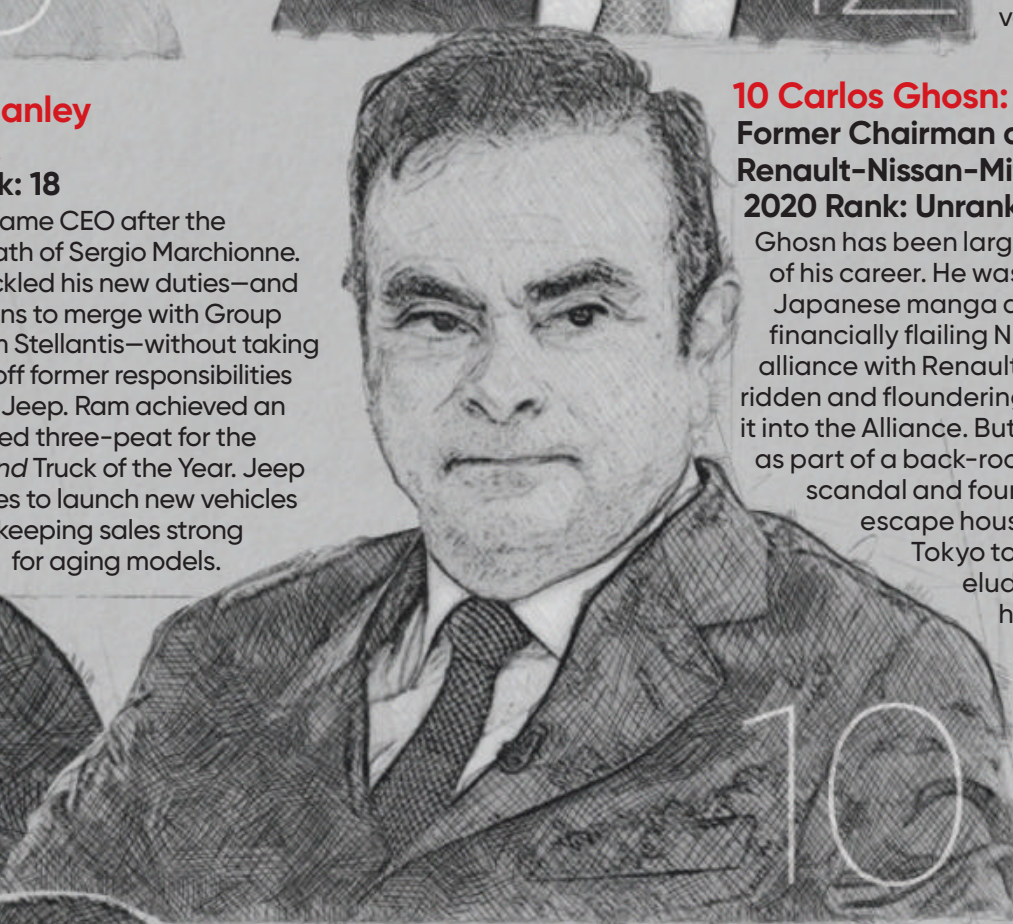
The entire 2021 E-Class family was re-engineered top to bottom, with new AMG versions, plug-in hybrids, and a reworked All-Terrain wagon. The whole family is a tech fest, including a new MBUX infotainment system with gesture control. Driver assistance tech has been improved, including an almost flawless lane centering system. From coupe to convertible, sedan to wagon, entry-level to storming performance, the E-Class is the benchmark luxury vehicle.



11 Mike Manley

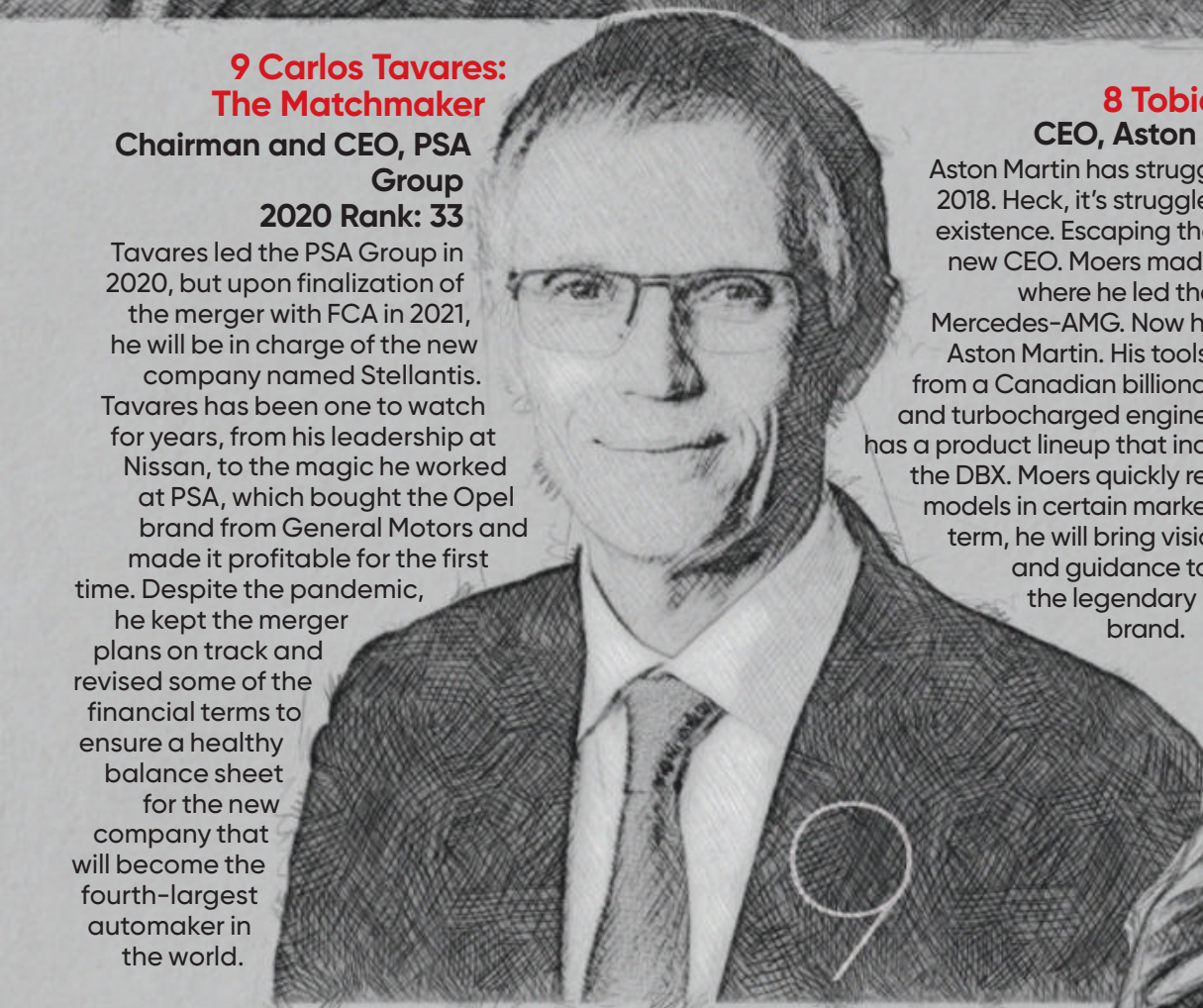
CEO, FCA
2020 Rank: 18

Manley became CEO after the sudden death of Sergio Marchionne. Manley tackled his new duties—and preparations to merge with Group PSA to form Stellantis—without taking his fingers off former responsibilities for Ram and Jeep. Ram achieved an unprecedented three-peat for the *MotorTrend* Truck of the Year. Jeep continues to launch new vehicles while keeping sales strong for aging models.



10 Carlos Ghosn: The Fugitive
Former Chairman and CEO, Renault-Nissan-Mitsubishi Alliance
2020 Rank: Unranked

Ghosn has been larger than life for much of his career. He was the superhero in a Japanese manga after he rescued the financially flailing Nissan by creating an alliance with Renault. He saved a scandal-ridden and floundering Mitsubishi by bringing it into the Alliance. But then he was arrested as part of a back-room corporate financial scandal and found himself in jail, only to escape house arrest—smuggled from Tokyo to his native Lebanon, eluding airport security by hiding in a box for concert audio equipment. The escapee has not yet been convicted of anything, but his was the most arresting automotive story of the year.



9 Carlos Tavares: The Matchmaker

Chairman and CEO, PSA Group
2020 Rank: 33

Tavares led the PSA Group in 2020, but upon finalization of the merger with FCA in 2021, he will be in charge of the new company named Stellantis. Tavares has been one to watch for years, from his leadership at Nissan, to the magic he worked at PSA, which bought the Opel brand from General Motors and made it profitable for the first time. Despite the pandemic, he kept the merger plans on track and revised some of the financial terms to ensure a healthy balance sheet for the new company that will become the fourth-largest automaker in the world.

8 Tobias Moers: The Fixer

CEO, Aston Martin **2020 Rank: 41**

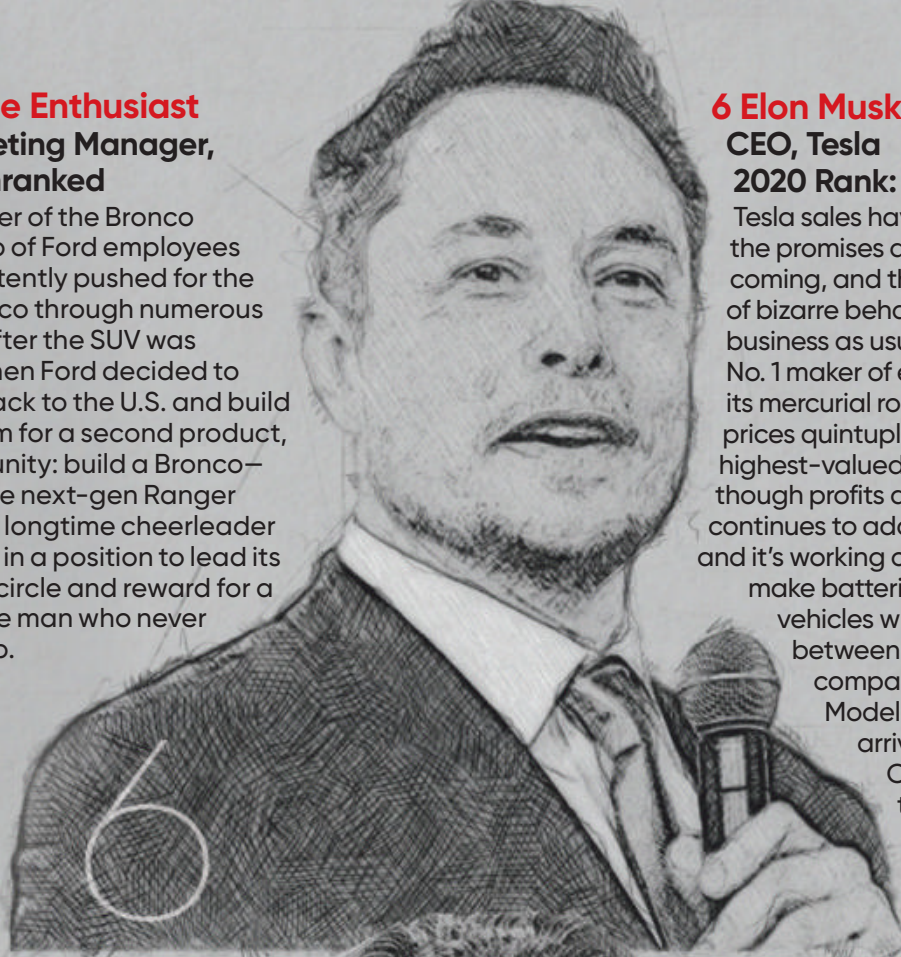
Aston Martin has struggled since it went public in 2018. Heck, it's struggled for most of its 107-year existence. Escaping the tide of red ink falls to its new CEO. Moers made the move from Daimler, where he led the successful expansion of Mercedes-AMG. Now he must work his magic at Aston Martin. His tools include a cash injection from a Canadian billionaire as well as investment and turbocharged engines from Mercedes. And he has a product lineup that includes the brand's first SUV: the DBX. Moers quickly realigned pricing of some models in certain markets. Longer-term, he will bring vision and guidance to the legendary brand.





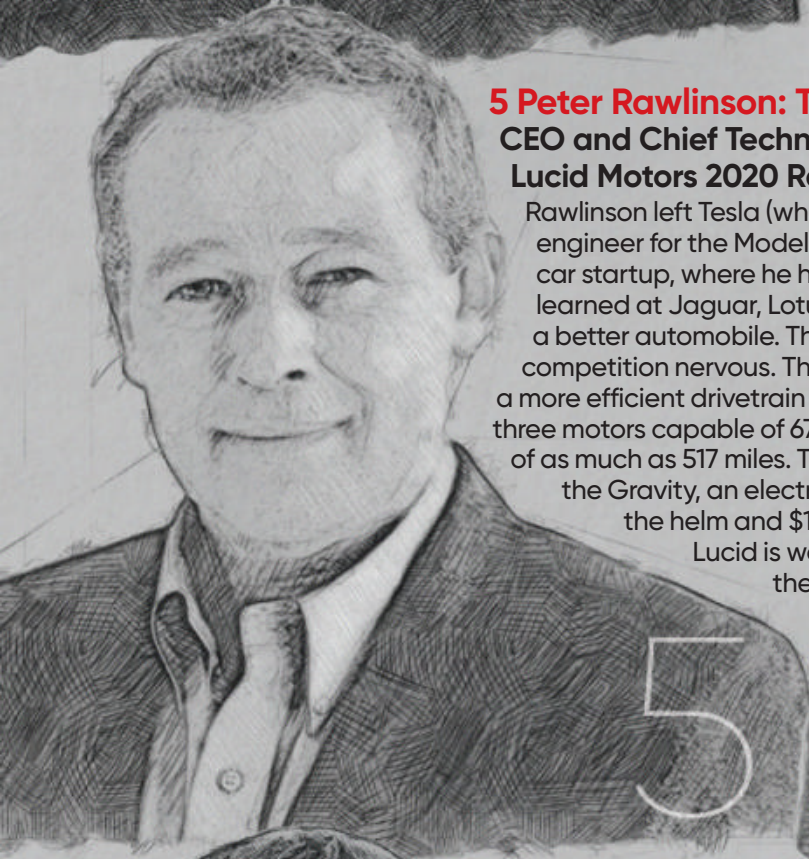
7 Mark Grueber: The Enthusiast
U.S. Consumer Marketing Manager,
Ford 2020 Rank: Unranked

Grueber was a member of the Bronco Underground, a group of Ford employees who quietly but persistently pushed for the return of the Ford Bronco through numerous leadership changes after the SUV was discontinued in 1996. When Ford decided to bring the Ford Ranger back to the U.S. and build it in a plant that had room for a second product, Grueber saw the opportunity: build a Bronco—code-named Goat—on the next-gen Ranger platform. Now Grueber, the longtime cheerleader of the hardy little SUV, is in a position to lead its marketing. Full circle and reward for a passionate man who never gave up.



6 Elon Musk: The Player
CEO, Tesla
2020 Rank: 24

Tesla sales have never been higher, the promises and products keep coming, and there are still sprinklings of bizarre behavior. In other words, business as usual for the industry's No. 1 maker of electric vehicles and its mercurial rock star CEO. Stock prices quintupled, making Tesla the highest-valued automaker even though profits are still elusive. Tesla continues to add plants and products, and it's working on new ways to make batteries and manufacture vehicles while blurring the lines between a car and a tech company. Although the Model Y is on sale, specific arrival dates for the Cybertruck, Semi truck, Roadster, and a \$25,000 model are indeterminate. In the interim ... Tequila shots for everyone!



5 Peter Rawlinson: The Engineer
CEO and Chief Technology Officer,
Lucid Motors 2020 Rank: Unranked

Rawlinson left Tesla (where he was chief engineer for the Model S) for this electric car startup, where he has taken what he learned at Jaguar, Lotus, and Tesla to create a better automobile. That should make the competition nervous. The Lucid Air sedan has a more efficient drivetrain that accommodates three motors capable of 670 hp each and a range of as much as 517 miles. The Air will be followed by the Gravity, an electric SUV. With Rawlinson at the helm and \$1 billion in Saudi backing, Lucid is well on its way to being the real deal.



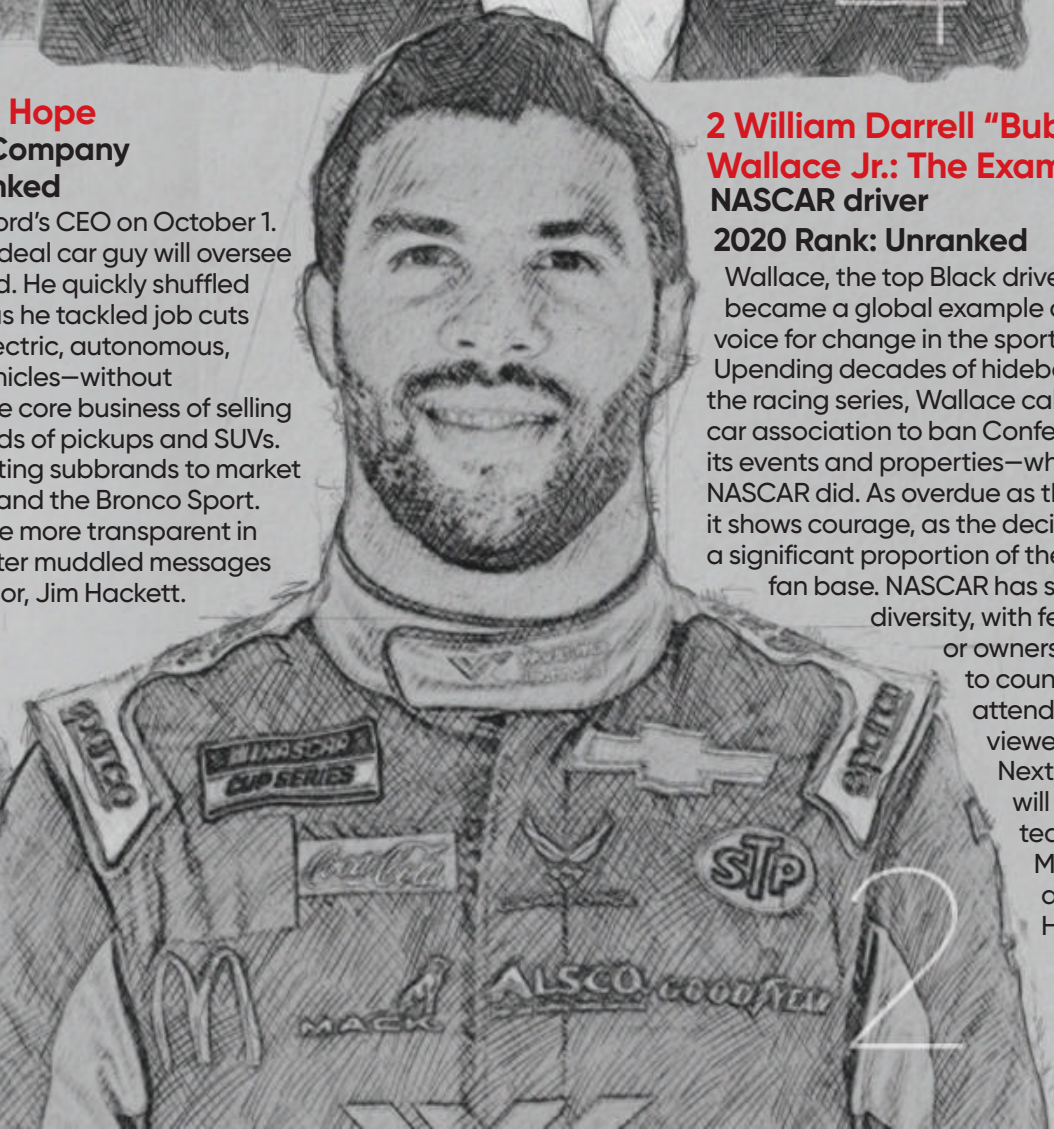
4 Alfonso Albaisa: The Designer
Senior Vice President for Global Design, Nissan Motor Co.
2020 Rank: 36

Albaisa has been developing a new look for the Nissan, Infiniti, and Datsun brands. Although his Infiniti concepts have been akin to pieces of rolling sculpture and the Nissan Z Proto has us excited for the return of the signature sports car, it is the latest mainstream Nissan vehicles that have caught our eye. The honest Nissan Sentra sedan and sharp Rogue SUV are light-years ahead of the models they replaced, creating a much more upscale look and feel. The new Frontier should also take a giant leap forward.



3 Jim Farley: The Hope
CEO, Ford Motor Company
2020 Rank: Unranked

Farley took over as Ford's CEO on October 1. Many hope this real-deal car guy will oversee a turnaround for Ford. He quickly shuffled his executive team as he tackled job cuts while developing electric, autonomous, and commercial vehicles—without compromising on the core business of selling hundreds of thousands of pickups and SUVs. Credit Farley for creating subbrands to market the Mustang Mach-E and the Bronco Sport. Farley is expected to be more transparent in explaining his vision after muddled messages from his predecessor, Jim Hackett.



2 William Darrell "Bubba" Wallace Jr.: The Example
NASCAR driver
2020 Rank: Unranked

Wallace, the top Black driver in NASCAR, became a global example and even louder voice for change in the sport and America. Upending decades of hidebound ways within the racing series, Wallace called on the stock car association to ban Confederate flags at its events and properties—which an evolving NASCAR did. As overdue as the move was, it shows courage, as the decision angered a significant proportion of the series' core fan base. NASCAR has struggled with diversity, with few Black drivers or owners, as it also seeks to counter declining attendance and viewership numbers. Next season, Wallace will drive for a new team owned by Michael Jordan and driver Denny Hamlin.



1 PERSON OF THE YEAR

The American Driver

2020 Rank: Unranked

Remember all the pundits who said drivers are losing that loving feeling for cars? How no one drives for pleasure anymore, that spending hours commuting was sucking the joy of ownership and fueling the migration to mass transit and ride hailing? How we were all going to be riding in autonomous drones by the middle of the decade?

Then a pandemic hit. The world got off its regular treadmill as people across every country began to isolate. It was no longer

safe to go to the office, board a plane or train, or hail a taxi. Events were canceled.

The immediate result: In April, as the pandemic spread, total driving decreased by 40 percent compared to 2019, according to the Federal Highway Administration. Destination travel plummeted. Memorial Day had its fewest travelers in decades.

Then a funny thing happened. With few options for getting out of the house, the car became a symbol of freedom in a time of unimaginable restriction.

We started going for drives for the sheer pleasure of it. We planned road trips to escape home confinement and rediscover America's spacious skies, our purple mountains' majesty, fruited plains, and sea to shining seacoasts—all possible while observing sensible social distancing guidelines (the superspreader idiocy of Sturgis notwithstanding).

The American driver has triumphed. We have started living more in the moment. Our wanderlust spirit cannot be quelled.



The car has become an extension of our homes, a prized personal space and a sanctuary—even when we’re simply sitting in the driveway to listen to satellite radio, take a conference call, or just enjoy a quiet moment. Teenagers forced to home-school started taking drives—as a safe way to escape, decompress, and explore.

Winter will make it harder to go for a walk or ride a bike, and the car will be even more important in providing a mental break.

This is not a fleeting moment, says Sheryl Connelly, Ford Motor’s resident futurist. “[COVID] has gone on for so long it will be a fundamental change, especially for teens and young people in their formative years.”

Add to the equation the professionals leaving downtown environs and moving

to the suburbs, needing to buy their first personal vehicle.

It’s not that people miss commuting. The beauty is the driver is behind the wheel by choice—and loving it. A survey by the U.S. Travel Association showed that 52 percent of Americans are planning their next vacation, and they likely will travel by car.

The Woodward Dream Cruise near Detroit was officially canceled this year. But cruisers were out in full force anyway, with queues of drivers grinning and lazily working their way up and down the boulevard. The passion of the original event could not be stifled. It was an organic movement.

COVID led people to re-evaluate their relationship to their vehicle, to embrace its ability to make them feel safe and healthy

and self-sufficient. “I don’t think we would have seen this without the pandemic,” Connelly says. It’s a forced reset.

For all these reasons, the collective American driver tops the 50 names on the 2021 *MotorTrend* Power List. The next time you get behind the wheel, feel that familiar rumble when you fire it up, and ease out onto the road with the freedom your car uniquely affords, congratulate yourself. You are *MotorTrend*’s Person of the Year.



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Even though almost 30 models make up today's Mercedes-Benz portfolio in the U.S., the launch of an all-new S-Class is still a defining moment for Germany's most successful premium automaker. Mercedes SUVs, particularly the GLE and GLC families, have become the brand's volume sellers, but an S-Class is still meant to be nothing less than a statement of engineering excellence and technical expertise that underpins the very credibility of the three-pointed star. The mission statement for the 2021 S-Class is thus crystal clear.

The 2021 S-Class, code-named W223, is built on a new platform known internally as MRA2. Effectively an evolution of the current car's underpinnings, MRA2 has been reworked to package a new rear-steer axle and a larger battery for plug-in hybrid versions of the car. Compared with the

outgoing long-wheelbase W222 S-Class, the distance between the front and rear axles has been increased by 2.0 inches to 126.6. Overall length has grown 1.3 inches to 208.2, width has gone up by 2.1 inches, and height has increased by 0.4 inch.

The exterior design is evolutionary rather than revolutionary, though in detail every panel is dramatically different from the outgoing car. Up front is a bigger grille and smaller high-tech headlights; at the rear are two-section taillights that echo the vaguely triangular format seen on the A-Class sedan.

Pop-out door handles that nestle flush with the door skins complement a clean bodyside, anchored by a crisp shoulder line that runs almost the full length of the car. The raked C-pillar flows seamlessly into the trunk, which is slightly larger than that of the outgoing model.

Although the S-Class is available elsewhere with a variety of powertrains, the U.S. lineup will initially be restricted to just two, with standard all-wheel drive. The entry-level S-Class will be the S 500 4Matic, powered by the M256 3.0-liter I-6 with the 21-hp, 184-lb-ft EQ Boost mild hybrid system. It produces 429 hp and 384 lb-ft of torque. The S 580 4Matic will be powered by the M176 4.0-liter twin-turbo V-8, upgraded to work with the same EQ Boost setup as the six-cylinder engine. Outputs are 496 hp and 516 lb-ft.

Standard wheels for the U.S. market are 19 inches, with 20- and 21-inch wheels available as an option.

The family resemblance with the existing S-Class is clear, though in person the W223 has a more contemporary look. Inside, it's a different story. The 2021 S-Class' interior is a dramatic

AN S-CLASS SHOULD BE A STATEMENT OF EXCELLENCE AND MISSION ACC

WORDS ANGUS MACKENZIE



combination of traditional luxury materials and state-of-the-moment digital technology, anchored by a modernist schema that makes the BMW 7 Series and Audi A8 cabins look so last century.

In the S-Class, the screen is celebrated, but not with the drab austerity you see in a Tesla. A simple, rectangular digital instrument panel stands proud of a dash that



The interior combines traditional materials and state-of-the-art digital touches to create the luxury accommodations one would expect from an S-Class.

TECHNICAL EXPERTISE. IT DELIVERS ON ALL COUNTS.

COMPLISHED





The S-Class' large central touchscreen, an OLED display behind haptic glass, is 64 percent bigger than the screen in the previous model.



rolls forward to a padded section under the windshield and enhances the sense of spaciousness for the front passengers. The silver edging on the curved panel integrates it with the center console.

The 2021 S-Class drives ... well ... like an S-Class. Actually, it damn near drives itself, the lane keeping and steering assistance systems seamlessly working with the adaptive cruise control to the point where pretty much all you have to do on a freeway is lightly hold the steering wheel.

It will park itself: A trial project at one of the parking structures at Stuttgart airport will allow S-Class owners to pull into a valet area, step out of the car, lock it, and complete a handover to the building's embedded digital infrastructure via smartphone. The car will then start up and motor away, negotiating turns and ramps, before parking in its allocated space.

Those of us who still enjoy the art and science of driving will rejoice in the fact that although the new S-Class is a big, quiet, lavishly equipped luxury limousine, its chassis has the deep capability that is the hallmark of all great Mercedes-Benz sedans. Left to its own devices, it will effortlessly cosset and comfort the average driver, yet when pushed it digs deep to deliver the enthusiast remarkably consistent levels of response, grip, and balance.

The standard air suspension gives a plush yet controlled ride, regardless of whether the big Mercedes is tiptoeing

down a cobbled street at walking pace or hammering down the autobahn at a buck-fifty. The steering is nicely weighted, and the brakes effortlessly haul the big car down from triple-digit speeds.

We've been impressed by the mild hybrid 3.0-liter I-6 in other Mercedes models, and it feels right at home in the S 500, being virtually silent at low speeds and making little more than a distant hum at full-throttle acceleration. It's good enough to make you wonder why you'd pay extra for the eight-cylinder S 580.

That said, the S 580's 4.0-liter twin-turbo V-8 plays nicely with the EQ Boost motor to deliver a relaxed surge of thrust with little more than a distant murmur emanating from under the hood. Relaxed? The torque motor, mounted between the engine and the transmission, helps the S-Class ooze away from a standstill, but once the tach needle swings past 3,000 rpm, the V-8 loosens up the way elite runners settle into their stride. At 100 mph in ninth gear, the engine is turning just 1,900 rpm.

Our test cars were fitted with the 10-degree rear-steer system, which delivered amazing low-speed agility, enabling the big Benzes to jink and weave down narrow streets and through tight turns like a small hatchback. The system, which cuts more than 6 feet from the car's turning radius, will only be available in the U.S. on



the S 580 4Matic's Executive Line options pack, which, among other things, includes 20-inch wheels, a rear-seat entertainment system, and the 30-speaker, 1,750-watt 4D Burmester audio system. The AMG Line options package also gives you rear-wheel steering, but the package's wider-section rear tires—on 20- or 21-inch wheels—mean the maximum steering angle is restricted to 4.5 degrees.

Good as it is, you could argue that, in terms of its mechanicals, the 2021 S-Class doesn't really push the envelope. Hybrid powertrains, nine-speed automatic transmissions, air suspension, rear-wheel steering—none of this stuff is new. Where the new S-Class makes the case for being the three-pointed star's engineering and technology flagship is in the digital realm.

It's in the 2021 S-Class that Daimler's second-gen MBUX infotainment system makes its debut, featuring 50 percent more processing power and advanced voice control that works in 27 languages and can learn the voices of individual drivers and passengers. The system can recognize who's behind the wheel in four ways: via facial recognition using eye-tracking cameras, via fingerprint recognition activated by a small touchpad in the frame at the base of the central screen, via voice recognition, or via a PIN typed into the screen. It then adjusts all the car's settings to the relevant driver's stored preferences.

The showstoppers for the second-gen MBUX system, though, are the 3-D instrument panel and augmented reality head-up display, both of which are available as options across the 2021 S-Class lineup.

Activated via a virtual button in the upper left-hand corner of the central touchscreen, the 3-D instrument panel system uses two cameras located at the top edge of the instrument panel screen to track the movement of the driver's eyes. The system then creates two slightly

different images on the high-definition instrument panel screen that combine to create a 3-D image.

In addition to the choice of four instrument panel layouts, the instrument screen can be switched to provide a full-screen navigation display or a driver assistance display that renders data from five radar units, five video cameras, and 12 ultrasonic sensors into a real-time overhead view of the car's place on the road and the movements of surrounding traffic. These last two are particularly vivid in 3-D mode.

The augmented reality head-up display builds on the technology used in the screen-based augmented navigation system unveiled with Gen 1 MBUX, overlaying arrows and other information on what you're seeing to help you follow the right road. The difference is the information is now projected, via a digital mirror device made by Texas Instruments, onto the windshield, with a depth of field that makes it appear as if it's floating in space 32 feet in front of you.

The effect is uncanny, yet after a few minutes, it seems totally natural and—in our daylight test conditions, at least—not distracting. In addition to all the usual information you expect, the augmented reality HUD also shows, by way of green, glowing lines, which vehicle ahead the active cruise control system is monitoring and whether there are vehicles cruising in the blind spots to the left and right. It's brilliant, a near sci-fi technology that even the most hands-on drivers will appreciate for its ability to improve their situational awareness.

The S 500 4Matic and S 580 4Matic are both scheduled to arrive in the U.S. in the first half of 2021. Prices haven't been announced, but don't be surprised if the six-cylinder car nuzzles \$100,000, with the V-8 stickering for \$10,000 more.

The lineup will be expanded later with the addition of the S 580e plug-in hybrid, which will combine a 362-hp version



2021 Mercedes-Benz S-Class	
PRICE	\$100,000–\$110,000 (est)
LAYOUT	Front engine, AWD, 4–5-pass, 4-door sedan
ENGINE	3.0L/429-hp/384-lb-ft turbocharged DOHC 24-valve I-6 plus 21-hp/184-lb-ft elec, 429 hp/384 lb-ft (comb); 4.0L/496-hp/516-lb-ft twin-turbo DOHC 32-valve V-8 plus 21-hp/184-lb-ft elec, 496 hp/516 lb-ft (comb)
TRANSMISSION	9-speed automatic
CURB WEIGHT	4,900–5,100 lb (est)
WHEELBASE	126.6 in
L X W X H	208.2 x 76.9 x 59.2 in
0-60 MPH	4.6–4.8 sec (MT est)
EPA FUEL ECON, CITY/HWY/COMB	Not yet rated
ON SALE	Spring 2021

of the 3.0-liter inline-six with a 140-hp motor to give a total system output of close to 500 hp and the same 516 lb-ft of torque as the mild hybrid S 580. A 28-kWh battery means it will be able to travel up to 60 miles on pure electric power, more than double the range of the 2020 S 560e PHEV. And, of course, there will be AMG-massaged versions for those who want serious power—as much as 800 horsepower, sources say—as well as serious luxury in Maybach form.

The 2021 Mercedes-Benz S-Class nails its mission statement, with a slightly unexpected twist. The oily bits work with the Teutonic precision expected of a flagship Mercedes sedan, and it has the commandingly luxurious presence its loyal customers want. But the advanced electronics, especially the carefully engineered driver support systems and the nascent AI capabilities of the second-generation MBUX setup, make this S-Class really feel like the future has arrived. Wearing the three-pointed star. ■





I'm running wide. Real wide.

I'm ripping up Pikes Peak, tickling 13,000 feet, entering a corner they call Bottomless Pit at 113 mph in my Tesla Model 3 race car.

Up to this point, everything had gone smoother than a warm chocolate fondue. It's my sixth shot answering the siren's call from the fourteener boulders of America's Mountain—the Pikes Peak International Hill Climb. The thrills and challenge of open-road racing are irresistible to me. But things have just taken a bad turn.

Just three months before, I was on a *Third Row Tesla* podcast with Ben Schaffer of Unplugged Performance, the noted Tesla tuner. I needed a ride, so I threw it out there: Say, why don't we ask if we can borrow the Model S Plaid for Pikes Peak? "Not likely," Schaffer said. "But maybe we could run our UP Model 3 Performance."

Really? After my experience hot-lapping their suspension and carbon widebody mods at one of their Tesla Corsa track

days, this made perfect sense. Impressive handling, upgraded brakes and cooling, huge torque, and adjustable all-wheel drive.

Better still, it would be a single 10-minute run at altitude, where electrons don't slow down. Internal combustion cars wheeze up there, and turbos are tough to tune for it. Failures are common. High voltage is perfect for Pikes Peak and its 14,115-foot summit, and an electric prototype racer has the overall record, by a lot.

Before you know it, the Unplugged team has stripped and caged a brand-new Model 3 and installed every speed part they sell. The drivetrain remains stock, the complex high-voltage system being very difficult to modify, except for some tricks to keep it cool in



COME BACK

**RANDY POBST RECOUNTS HIS EPIC PIKES PEAK
CRASH AND HOW THE UNPLUGGED PERFORMANCE
TEAM GAVE HIM A SECOND CRACK AT GLORY**

WORDS RANDY POBST PHOTOGRAPHS TAYLOR BRODSKY, DAN OLDFIELD, AND UNPLUGGED PERFORMANCE





According to race organizers, there are 156 corners along the Pikes Peak International Hill Climb's 12.42-mile route.

the thin air. Power creates heat—whether it's electric, gas, or diesel.

We test at *MotorTrend's* home away from home, WeatherTech Raceway Laguna Seca, and set the electric car lap record on our first lap. The Model 3's instant, massive torque response into all four racing slicks makes it a beast out of the tight turns, and the ultra-low center of gravity helps

keep the UP3 stuck in the fast ones. It's all about the launch. The power is not as awe-inspiring down the longer straights, but at 450 hp, it's still quick.

As an aggressive driver who appreciates the confidence of a stable setup, I prefer the front-rear torque split at 50/50, to capitalize on the car's strongest point: the low-speed exits. Unplugged added a rear limited slip, so that end is hooked, but I feel what seems like traction control nibbling at the power due to inside-front wheelspin, indicating the car would benefit from an LSD on that end, too.

To help keep the nose loaded, we add front rebound damping and reduce rear compression to the adjustable UP shocks, slowing rear weight transfer. We also soften the front bar to reduce the tendency to lift that inside tire. It helps as we lower our own record time. Its 1 minute, 35.79 seconds puts it a fraction slower than a 2020 Porsche 911 Carrera S



and a blink quicker than a C7 Chevrolet Corvette Grand Sport. We leave Laguna Seca feeling strong for The Peak.

At Pikes Peak, you get only one full run on the mountain, on race day. Practice happens in three sectors during the week, at sunrise, before the highway opens to public traffic. The mountainous beauty of the place is stunning as the sun comes up from below. The lower section is qualifying, which we run on day one, starting at a lofty 9,000 feet.



Three things must go wrong to cause a crash. We've got four.



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It honestly could not have gone better. We sit first in class with a prodigious lead. I've never felt such grip up there. Battery temps are cool, the brakes combined with electric regeneration are fantastic, and I cut apexes like never before. The Tesla never puts a wheel wrong as I wring it out through the trees on that narrow, winding ribbon of asphalt, elated by its genuinely superb handling.

We head into day two's upper section practice feeling confident. It's cold up there, 40-something, and the frost heaves are worse than ever, but that's normal. Schaffer pulls me aside and says: "Take 'er easy. We've got a wide margin here." I salute, "Yes, sir." I feel like we got this.

Everything seems just peachy as we schuss into Bottomless Pit corner at well over 100 mph. It's the first run, only the third turn into it, and the cold slicks are not being warmed by the chilled pavement in the brisk mountain temps.

There's a massive yump just after entering the bend, and I know it's worse than ever, from street-speed practice and from warnings from friends who ran the day before. I back down to a reasonable speed as we dive down, scraping the carbon splitter. Then, sudden disaster.

The Tesla leaps sideways as we bounce out of the dip. Yikes, it never did anything like that before! No problem, I think, I do this all the time, like on *MotorTrend* hot laps. I whip the wheel with a lightning steering correction, catching the slide, then try to whip it back to recover. But it's lazy, like molasses, just for a moment. In Sport mode, the electric assist can't keep up. I'd noticed this (like on Mustangs) and usually ran the Comfort mode for more assist in both kinds of cars, but the Tesla had been so hooked up that I chose Sport the day before for the better feel.

In a plane crash, they say three things have to go wrong to cause it. Between it being the first run, running on cold tires, with lazy steering assist, and not enough rear rebound for a Baja-sized bump, we've got at least four issues, and I'm out of pavement.

YOU CAN WATCH ALL OF RANDY POBST'S AMAZING PIKES PEAK ADVENTURE BY SUBSCRIBING TO THE MOTORTREND APP.

Bah-BOOM.

I slam the Tesla into the stone wall separating road from a thousand-foot drop-off (hence, Bottomless). The Model 3 flies into the air and lands unceremoniously in the drainage ditch beyond.

I have wrecked this beautiful new creation. Ben's advice rings in my ears.

Sure, I'm fine, due to terrific safety prep by the team. But my heart is broken, and so is the UP Tesla. The team drags the poor car into the trailer and back to Colorado Springs. It's toast, they say. Totaled.

But once the initial shock subsides a bit, the Unplugged Performance spirit remains. A glimmer of hope emerges. Joe Brenner of Porsche Colorado Springs calls and offers their Euro Cars body shop, along with Brian and Christian, two trained Tesla techs. As they look it over, Unplugged CEO Schaffer dives in head first: "I don't want the story to end like this. This troubled world needs something better." What an amazing attitude and person.

With Tesla's help finding it, Schaffer buys another Model 3 so the team can



"I DON'T WANT THE STORY TO END LIKE THIS. THIS TROUBLED WORLD NEEDS SOMETHING BETTER."





Clockwise from top left: Craig recalibrates the new drive units. UP owner/leader Ben Schaffer manages a smile as the rebirth progresses. New UP adjustable dampers arrive for all four corners. Hopes were very dim on crash day. The forged wheel folded like origami.



I CRASHED ON TUESDAY. BY SATURDAY, WE'RE DOING DONUTS IN THE PARKING LOT.



The aftermath: The damage was as bad, and not as bad, as it looks.



Tesla body techs Christian (L) and Brian (R) did a heroic 48 hours at the Euro Cars shop, here having just dropped the rear drive unit sub assembly.



With a time of 11:04.131, Randy Pobst's rebuilt Unplugged Performance Tesla Model 3 finished second in class and 21st overall.

Randy Pobst is a two-time class winner of the 24 Hours of Daytona and seven-time series champion with more than 90 professional race wins to his credit. He has been a factory-backed driver for Mazda, Audi, Volvo, and Porsche. Randy is *MotorTrend's* resident hot shoe and is the lap time setter for events such as Best Driver's Car.



scavenge all the parts they need. The UP team and Euro Cars go 48 hours straight and completely rebuild the smashed suspension and drivetrain.

I banged the wall Tuesday, and the race is Sunday. By Saturday night, we're doing donuts in the parking lot and then figure eights at a private airport, also arranged by Brenner. She's running great!

Sunday morning, in a heroic comeback, we roll up to the starting line for the race. I feel fantastic for the team,

who put in a herculean effort to give us another shot at glory.

The rebuilt UP Tesla handles great, and we're flying for the first 2 minutes, but then the power falls off. (Although the battery pack had checked out fine after the crash, a false overheat alarm cut the power under race conditions.)

Driving hard at half power, we still make the summit, a great victory in itself. We even earn second place, just a tantalizing 1.3 seconds off the leader on

an 11-minute run. Our top tech Eddie calculates that gap to be 0.1 mph slower over the whole run. So close, but congrats to the winner, a mostly unmodified Tesla Model 3, driven to the event from Florida and raced by Blake Fuller, rightfully thrilled with his first-place finish.

It feels so great to have made the race, the Unplugged phoenix rising from the ashes. Schaffer says, oh yes, we'll be back next year, better than ever. The mountain beckons irresistibly. ■

COMBAT CARPOOL!

RACE-PREPPEd, NINE-SEAT,
OPEN-BODIED COLORADO ZR2
PROMISES TO BE SO MUCH BETTER
THAN WALKING. WE DRIVE IT.

WORDS FRANK MARKUS



America's Army infantry soldiers have mostly been getting around on foot, but they're about to get a radical upgrade in the form of the Chevrolet Colorado ZR2-based Infantry Squad Vehicle.

The ISV's mission is to airdrop into a safe zone then drive infantry through low-threat areas at speed, the soldiers walking the rest of the way where the threat is greater. This way the troops

should arrive at their destination much less fatigued than they would be if they had walked the whole way or been carried in a Humvee or JLTV.

Let's dive right into what might just become a great recruiting tool for the Army's 35 Infantry Brigade Combat Teams.

275 Horsepower, 420 Pound-Feet

The military generally runs on diesel fuel and the chemically similar JP-8 and F-24 fuels, so the ZR2's 2.8-liter turbodiesel inline-four engine is modified to sense and adjust for these fuels automatically. Further improvements for ISV duty end up boosting output to 275 hp and 420 lb-ft of torque—89 more horses and 51 more lb-ft than stock. That's almost all just tuning, largely made possible by tailoring it to suit the Army's unique duty cycle and, um, more "lenient" emissions requirements.

There is no NOx trap and hence no diesel exhaust

fluid, though no emissions controls are "defeated," per se, and you won't see ISVs "rolling coal."

Usage and maintenance patterns are quite different. A stock Chevrolet Colorado ZR2 needs to be capable of enduring 20,000 miles per year for a decade with potentially spotty maintenance. By contrast, an army vehicle might only accrue a tenth as many miles per year over its 30-year expected lifespan, during which it will experience a very different service life involving fewer miles, more engine hours, and brief periods of "highly intense" usage.

So some durability requirements and safety margins are exceeded a bit for the ISV. Oh, and a Combat mode disables all limp-home nannies to get soldiers out of harm's way. And the ISV will be treated to a strict regimen of preventative maintenance checks and services.

Sadly, although you'll be able to buy most of the suspension modifications listed below from GM Performance Parts, GM will not sell chip kits to achieve these power and torque figures.



How Quick Is the ISV?

The Army won't share its figures, but they would be meaningless anyway because the Army tests at max 8,200-pound GVWR (5,000 max for the truck, 3,200 pounds for nine troops and their gear).

But we've tested two diesel ZR2s with six-speed automatic transmissions and similar weight-to-power ratios (18.0 lb/hp), which both did the 0–60 run in 6.9 seconds and ran the quarter mile in just over 15 seconds at around 90 mph, so that's a safe guess for how the ISV would fare in an official *MotorTrend* test with just the driver on board.

That's way quicker than the 9.7 seconds to 60 and 17.2 seconds at 78.4 mph we've recorded on a stock ZR2 diesel.

Chad Hall Racing Suspension

The heart of the ZR2's suspension is its implementation of Multimatic Dynamic Suspensions Spool Valve shocks, which run a unique damping-curve tuning developed by the Hall folks to work with the GM Performance Jounce Shocks that team also developed. These hydraulic jounce bumpers cushion the full-travel suspension hits, and for ISV duty their frame mounts are welded on. (GM Performance versions use a mount that clamps over the frame.)

Special skidplates protect the lower shock mounts, the rear mount for the front upper control arm is reinforced, and the rear differential also gets welded-on reinforcements—all to address failures Hall Racing has experienced, many of which were witnessed by Chevrolet engineers standing by in the pits during the races. Sturdy canvas straps limit rebound travel to protect the ball joints, as well.

The ZR2's standard 17-inch Goodyear Wrangler Duratrac tires are replaced by similar-performing BF Goodrich Mud Terrain T/A KM3 tires (which the Chad Hall team uses) because they have endured 4,000 miles of racing durability testing. They're mounted to 7.0 x 17-inch beadlock wheels.

Yes, It's Great Fun to Drive

I buckle into the ISV's four-point seat belt on a crisp fall morning with chief engineer Mark Dickens riding shotgun and two Army brass folks in the back to ensure I don't endanger their baby.

My first two laps of a gravel circuit at GM's Milford Proving Ground are negotiated in rear drive with the rear axle locked. This prototype also lacks Stabili-Trak, which will be standard, defaulting to Competition mode so as not to worry drivers that it's losing power and so as not to overheat and compromise the brakes.

Loaded as we were to about a quarter of the ISV's 3,250-pound payload rating, it feels vastly lighter and more tossable than a stock ZR2 on hand for comparison. It responds in a textbook manner to all off-road car-control inputs. It is extremely easy to pitch it into a turn and hold a drift with the throttle.

The engine induction sound is also quite amusing because the intake snorkel draws air from the front passenger footwell, amplifying the turbocharger wastegate noises. Soldiers who grew up hooning a side-by-side around their farm's back forty will fight for the driver's seat and may struggle to resist the urge to take the ISV out on solo "missions."

Switching to 4WD Hi reduces its propensity to drift significantly, but it

IT FEELS VASTLY MORE TOSSABLE THAN A STOCK ZR2. IT RESPONDS IN A TEXTBOOK MANNER TO ALL INPUTS, AND IT'S EASY TO PITCH IT INTO A TURN AND HOLD A DRIFT WITH THE THROTTLE.

definitely feels like the faster way to get from A to B—and do so without causing one of your eight passengers to toss their MREs. A set of analog gauges monitor the vital functions, and a center screen indicates when a shift of drive modes or differential locking is underway.

My morning also included a drive of a diesel Colorado ZR2. With the windows closed and none of that wastegate noise coming from the glove compartment, it seemed like a different vehicle altogether, but performance was essentially identical.

Carrying 13.5 lb/hp instead of 11.8, the stocker felt sluggish with just two adults on board. Also, the stability control—even in Competition mode—was blinking almost constantly while running in 2WD with the rear axle locked, so maybe the ISV won't be quite as drifty after all.

I ended my morning with a ride in the Chad Hall racing ZR2, which served as the real-world development platform for all of the aftermarket ZR2 racing parts. It's powered by the gas V-6, so it is always revving higher than the diesel, and with a pro driver at the helm, it was just as drifty as I'd managed to make the ISV. It didn't feel any faster, though.

That structure fortifying the rear axle and those skidplates under the lower rear shock mounts were all designed as a result of race part failures on the Chad Hall truck.





It's Also More Comfortable to Ride In

We sampled a set of concrete whoop-ti-dos spaced to guarantee severe bottoming and topping of the suspension. The ISV didn't feel quite as cushy as the SCORE racers I have ridden in, largely because it has less suspension travel.

I was grateful for the four-point harnesses on this maneuver. But it was vastly more comfortable and felt far less damaging to the truck than running the same course at the same speeds in the stock vehicle. The Chad Hall ZR2 suspension took the whoop-ti-dos just as adroitly as the ISV had done earlier.

NASCAR Roots

It may encourage Army NASCAR fans to know that their new ISV was born in NASCAR country. Hendrick Motorsports will receive stock Chevrolet Colorado ZR2 crew cab frames (from the nearby

Mooreville, North Carolina, facility where all Colorado frames are produced) and weld up the chrome-moly steel exoskeleton, along with welding all suspension modifications to the frame.

Speaking of that frame, the high part that protects troops riding in the way-back is designed to fold down in 10 seconds to make it fit in a Chinook. Special pins retain the clamshell hoops to their diagonal supports using a ratchet mechanism that expands a rubber component to quell the incessant rattling that the prototypes' normal steel pins had suffered.

What Will the ISV Cost Taxpayers?

The Army's initial contract for 649 ISVs will outfit 11 Infantry Brigade Combat Teams (IBCT) with 59 vehicles each between fiscal years 2020 and 2024. The extended contract for 2,065 ISVs will

equip all 35 IBCTs with an equal number of ISVs. Of course, the Army isn't the only service where troops often have to walk; the Marines have expressed interest, as has the United States Special Operations Command (SOCOM), and it could be a natural fit for the National Guard, too.

There are those who have taken the announced total contract (\$214 million) and divided by the initial 649 vehicles to come up with the golden-toilet-seat number \$329,738. That's utterly and completely wrong and misleading. All the Army would say on the record was that the "target average unit manufacturing cost" initially set for the program was \$177,000, and we're assured that GM came in "significantly under that." You also need to know that the Army doesn't purchase vehicles the way we do. It negotiates a price that incorporates lifetime service parts, user training, and other extras.

Can Joe Public Get One?

Steven Herrick, the Army's ground mobility vehicle product lead, cautions that we shouldn't hold our breath.

"The Army has a very strict procedure for what determines when a vehicle is deemed an 'Excess Defense Article.' That could be a half century from now."

The good news is that enterprising troops returning to civilian life but looking to continue the hooning fun of the ISV need only find a lightly rolled ZR2 (it happens with the duty cycle the civilian models see), torch off everything but the floorboards and cowl (taking care to preserve the wiring harness), then weld up a steel cage.

This part is easier because you won't be high hot slinging it under a Blackhawk or moving it around in a Chinook, so it doesn't need to be that strong or fold down. Then add all the GM Performance Parts available from the dealer, and shop around for an "off-road-use only" chip kit for the Duramax. (Xtreme Diesel Performance advertises a 10 percent military discount!)

It sure seems like it'll be easier to talk folks into the Army Infantry once they hear they won't have to walk everywhere and they'll get to ride in this real-life *Halo* Warthog. ■

Pictured with its stock and Chad Hall racing ZR2 brethren, the ISV "Warthog" undoubtedly looks coolest. Why no windshield? It was impractical to keep clean when sloggng through mud or snow; the low wind deflector routes the worst of the road grime, gravel, and bugs up over the passengers' heads.

DEVELOPMENT ON THE DOUBLE

General Motors reconstituted its GM Defense business in October 2017, largely to promote its Colorado-based ZH2 and subsequent Silverado ZH2 fuel cell electric vehicles, which promised to provide 80 kilowatts of clean, silent power "in theater" while emitting 2 gallons per hour of potable water, potentially running on hydrogen produced by reforming JP-8 fuel on site.

The Army has yet to bite on that one, but it was in the market for an "Infantry Squad Vehicle." This go-anywhere vehicle does not replace any current vehicle; rather, it is intended to be dropped behind lines and transport Army infantry troops closer to the hot zone. Up until now they've been walking.

As such, it must be able to carry nine troops and their gear, be compact enough to fit inside a CH-47 Chinook helicopter, and light enough to be "high hot sling loaded" (dangled beneath) a UH-60 Blackhawk helicopter in environments like Afghanistan. This limits its battlefield-ready weight to 5,000 pounds.

Here's the backstory of how GM developed such a vehicle in record time and hence got itself back into the defense biz.

Bid Sample in 18 Weeks; Prototypes in 22 Weeks; Production in 17 Weeks

Five companies were invited to produce "bid sample" vehicles for the Army to assess. They were given 18 weeks to complete the task. GM quickly realized that the Chevrolet Colorado ZR2 essentially had the go-anywhere requirement met—especially when upfitted with a full catalog's worth of GM Performance Parts already developed for the ZR2 by the Chad Hall off-road racing team (which has thus far completed every race it's started in the ZR2).

So the engineers knuckled down to develop the nine-passenger seating (which includes two rear-facing troops in the "third row," with two outboard-facing seats behind them) and an exoskeleton capable of protecting nine troops, squeezing into a Chinook, and dangling from

Hydraulic jounce bumper mounts are welded on ISV; aftermarket units get a mount that clamps around the frame.

a Blackhawk—along with myriad other Army requirements (such as sustaining long grades at max weight in 120-degree heat, which GM's climate-controlled dynos verified).

Obviously this compressed timing demanded heavy reliance on computer-aided design and engineering—something GM is extremely familiar with, having just showed off a GMC Hummer EV that will come to market after just 18 months of development.

During a month of Army testing, the five bid samples were whittled down to three finalists: GM/Ricardo, Oshkosh/Flyer, and SAIC/Polaris (not the Chinese-owned SAIC Motor). GM then spent 22 weeks and a lot of computer testing to produce two prototypes for further testing at Fort Bragg and the Aberdeen Proving Ground.

From the day GM Defense was awarded the contract, the company had 120 days to deliver its first units. That's 120 COVID work-from-home days, and it ranks as the Army's fastest ground vehicle development program of the past decade.

The first vehicles are being produced in the same early-build prototyping shop in Milford, Michigan, that built the eCOPO Camaro, but production will eventually move to Concord, North Carolina. ISV production will start at four per month, ramping up to 14 per month.

Soldiers Chose GMD's "Warthog"

During that period of testing and throughout the development process, the GM team leaned on its long history of "market research," soliciting and acting on feedback from the soldiers who were testing it.

The team also sought feedback from GM's 250-strong Veterans' Employee Resource Group. Many of the hundreds of changes made between the prototype and production vehicles were due to soldier feedback. One example: the mesh webbing "roof" over

the cabin, onto which nine rucksacks can be quickly tossed or retrieved, retained by a single cargo net. The original plan had been for individual D-rings to hold the sacks around the perimeter of the vehicle, but using them proved too time consuming.

It also can't have hurt the ISV's chances that the truck is super fun to drive and looks for all the world like the M12 Force Application Vehicle "Warthog" from the *Halo* first-person shooter video games. And yes, Mike Simcoe's GM Design team in Warren penned the ISV—also on the double.

The Army would not, of course, have chosen the most popular vehicle with soldiers unless it also best met the Army's criteria. "At the end of the day, GM's ISV was the best value to the government across all aspects—performance, soldier feedback, cost/price, as well as sustainment," said Steven Herrick, the Army's ground mobility vehicle product lead.

70–90 Percent "Stock"

One of the most attractive features of the GM Defense ISV is GM's global parts supply network. The Colorado is sold globally in North and Central America and in South Korea. That's not the case with the other traditional Defense suppliers.

That eases parts resupply because 70 percent of the ISV is unmodified Colorado ZR2 content—a figure that jumps to 90 percent by the Army's accounting system, which counts items such as the aftermarket suspension travel limit straps and the cut, trimmed, and hemmed stock Colorado cab floorpan and T1 truck bed floor as "stock."

Assembly methods are also changed to suit the ISV's low production volume, with bonding and riveting replacing welding in certain components like the floor panels. The frame and exoskeleton receive an electrocoat primer, then certain parts are powder-coated while others are painted. The aluminum hood panel is stamped on low-volume kirk site dies.

Oh, and a lot of the bespoke parts, such as the front wheel opening mud deflectors, the headlamp bezels, and the battery cover, will start out being 3-D printed. They might eventually be tooled when production increases, but this also makes it easy to produce replacement parts in the field.

Partner supplier Ricardo also has experience working with the military, having developed the ABS/stability control systems for the Humvee. Most important, the company understands what the Army needs in the way of back-end service and maintenance, which



2020 GM Defense Infantry Squad Vehicle	
BASE PRICE	\$177,000*
LAYOUT	Front-engine, 4WD, 9-pass, 0-door truck
ENGINE	2.8L/275-hp/420-lb-ft turbo-diesel DOHC 16-valve I-4
TRANSMISSION	6-speed auto
CURB WEIGHT	4,950 lb (mfr)
WHEELBASE	128.5 in
L X W X H	207.1 x 81.75 x 73.9 in
0-60 MPH	6.9 sec (MT est)
EPA FUEL ECON	Not Rated
ON SALE	Currently

*The Army doesn't purchase vehicles the way we do. They negotiate a price that incorporates lifetime service parts, user training, and a host of other unusual "extras." This is also not the price GM is getting per vehicle. That figure has not been disclosed. Rather, it is the "target average unit manufacturing cost" initially set by the Army for the program. We're assured that GM came in "significantly under that."

is all part of the purchase contract. They've done lots of technical training with the Army and will assist in this way with the ISV.

There will be no NHTSA or IIHS testing of the ISV, but GM crash-tested it via computer simulation to meet a tougher Army standard, in which the truck is struck hard from the side and rolled onto its roof. Testing like this helped drive the decision to place four-point harnesses in most seating positions, with a five-point harness in place to prevent soldiers from submarining out of the two rearmost outboard-facing seats.

How the ISV Stacked Up

Herrick declined to comment on the performance of any other prototypes considered, and his procurement agency has no experience with the Polaris DACOR vehicle its ISV concept was to be based on, which some units have purchased on their own using General Services Administration contracts through the Defense Logistics Agency.

The U.S Army A-GMV (M1297) has also been performing some of the ISV functions for a while now. That vehicle is also transportable and capable of low-velocity aerial delivery, but it's too heavy for a Blackhawk to carry, and it's way more expensive.

What's Next for GM Defense?

With this contract in hand and Infantry Squad Vehicles being delivered as you read this, GM Defense is now bidding on a contract to replace the Joint Light Tactical Vehicle (JLTV). That will largely be a "from scratch" vehicle, not a repurposed T1 heavy-duty truck.

Of course, that doesn't mean certain parts won't be sourced from the corporate bin when that makes sense. Looking further into the future, David Albritton, president and general manager of General Motors Defense LLC, believes that GM's extensive experience with autonomy and electrification—both battery- and fuel cell-powered—position the company well to meet future military challenges.





MT GARAGE

PHOTOGRAPHS RENZ DIMAANDAL

Arrival: 2020 BMW X7 xDrive40i



ARRIVAL BMW X7	GENESIS G70	HONDA CIVIC SI	UPDATE KIA SOUL	UPDATE KIA TELLURIDE	MAZDA 3	UPDATE MAZDA CX-30
						
						
MERCEDES-BENZ GLE 450 UPDATE	NISSAN SENTRA	RAM 2500 HD UPDATE	SUBARU OUTBACK	TOYOTA RAV4 VERDICT	TOYOTA GR SUPRA UPDATE	VOLVO S60



comfortable seats, and more room than a Brit could possibly know what to do with: This thing would barely make it down many of our roads, and I certainly wouldn't be able to park it anywhere! However, it fits L.A. pretty perfectly. The powertrain is smooth and powerful, the active steering helps create a sense of agility and is tuned to match the chassis' reactions nicely, and

driving this giant SUV is intuitive and, at times, almost fun.

Downsides? The ride is busier than you might expect thanks to those 22s, the throttle and gearbox map feels too lazy in Comfort mode and too aggressive in Sport, and in truth the X7 never feels remotely sporty. Fast and effective? Yep. But it can't disguise its bulk in the way the X5 so often does. It is huge, of course, and brilliantly functional for giant, well-funded families or English blokes who need a relaxing thing to drive after a long day filming *Top Gear America*. Maybe the BMW purist inside me (and the rest of the staff) will be slowly extinguished by the X7's all-round competence. Maybe.

Let's find out.



2020 Kia Soul



Service life: 11 mo/12,891 mi
Average Fuel Econ 25.8 mpg

"We raid the Kia parts bin to make the perfect one-of-one Soul."
Brian Vance

Avg CO2 0.75 lb/mi **Energy cons** 130 kWh/100 mi
Unresolved problems None **Maintenance cost** \$39.95
(oil change, inspection, tire rotation) **Normal wear cost** \$0
Base price \$23,685 **As tested** \$25,755 **EPA City/Hwy/Comb**
Fuel Econ 27/33/30 mpg **Real MPG** 27.9 mpg comb

Kia offers no less than six trims in the Soul lineup, each with its own unique exterior styling. A recent browse through the variations on Kia's site had me daydreaming about swiping bits and pieces from the other five trims to achieve a custom look for this Soul EX. I like the styling of the Soul EX and have even suggested it looks like a Range Rover, but it's still fun to imagine the Frankensoul I could mold by combining parts from other trims.

This EX rides on upgraded 18-inch wheels with low-profile tires. (The EX comes standard with 17-inch wheels.) The short sidewalls have an adverse effect on ride comfort and cabin noise, so I'd happily switch to the 16-inch wheels available on the Soul S. The taller sidewall would likely provide a more compliant, quieter ride, and I prefer the wheels' styling and finish.

From the Soul X-Line I'd snatch the aggressive body cladding on the lower part of the doors, fenders, and rocker panels. None of these additions alter the Soul's

off-roading (in)ability, but they immediately up its curb appeal. I'd also borrow the X-Line's silver roof rails, which spruce up the vehicle's crown.

I'd alter the side mirrors, as well, by swapping to the silver-capped mirrors from the X-Line and merging them with the LED turn signal indicators from the Soul Turbo.

I also considered adding the big, bold grille and unique front fascia from the GT-Line but decided I prefer the EX's grille as is, the GT-Line grille being just a bit too assertive.

Last, to add some driving joy to the aesthetic changes, I'd swap out the EX's CVT for the six-speed manual that comes standard in the Soul LX. Although I take no issue with the EX's transmission and think it's rather good for a CVT, the idea of shifting my own gears in my custom one-off Soul sounds like fun.



2020 Ram 2500



Service life: 4 mo/6,870 miles
Average Fuel Econ: 17.6 mpg

"Adding a Mopar corner bed step that deploys with a kick has greatly eased access to this high-rise pickup box."
 Frank Markus

Avg CO2 1.27 lb/mi **Energy cons** 210 kWh/100 mi **Unresolved problems** None **Maintenance cost** \$0
Normal wear cost \$0 **Base price** \$54,045 **As tested** \$76,130
EPA City/Hwy/Comb Fuel Econ Not rated

Guffman has been making up for lost time by remaining in almost perpetual motion since his midsummer arrival, including a golf outing to northern Michigan and numerous trips to cabins. We therefore struggled to find a moment to schedule replacement of the sliding rear window we knocked out while hauling a grill north. After copious confusion and finger pointing between our dealer (who doesn't "do windows") and a local glass shop, FCA ended up installing the \$416.56 part for us at HQ.

That fixed, we put those auto-leveling rear air springs to a serious test. Record water levels have caused Lake Huron to breach a stretch of seawall at my summer place. Doubling its size to rectify the problem required us to mix 128 60-pound bags of ready-mix concrete beachside because a steep bank puts the project out of reach of any cement truck's delivery chute. That's two 3,840-pound pallets of cement. And yes, each trip slightly exceeded the gross rear axle weight limit of 6,000 pounds. But truck customers are known to do this, and our Ram 2500 shouldered the extra load with ease.



Each was conveniently loaded via forklift, and the manual unloading was eased slightly by our recent addition of a \$365 Mopar corner bed step, which would have been included in a \$745 Bed Utility

Group that replaced our truck's \$495 Bed Convenience Group.

Two tons of concrete smoothed Guffman's ride right out, though at every stop the dash info screen reminded me, "Air Suspension Adjustment Limited Due to Payload." The tall load also demanded judicious slowing for turns, but Guffman never grumbled.

Well, he grumbled a bit when his diesel exhaust fluid tank neared empty en route to that golf outing, causing a momentary panic and some improvisation when a small-town fuel stop didn't sell the handy DEF containers with built-in hoses. Subsequent DEF refills have gone way smoother, and to date our consumption seems to be averaging around 900 miles per \$10 gallon of DEF. Next, our intrepid road warrior is scheduled for separate adventures to Florida and South Carolina.

WE EXCEEDED THE REAR AXLE WEIGHT LIMIT, BUT IT SHOULDERED THE LOAD WITH EASE.



2020 Kia Telluride



Service life: 5 mo/9,240 mi
Average Fuel Econ: 20.5 mpg

"Another year goes by, and the Telluride still reigns supreme."
 William Walker

Avg CO2 0.95 lb/mi **Energy cons** 160 kWh/100 mi **Unresolved problems** None **Maintenance cost** \$0 **Normal wear cost** \$0
Base price \$35,085 **As tested** \$36,015
EPA City/Hwy/Comb Fuel Econ 20/26/23 mpg



It's hard to believe that more than a year has passed us by since we named the Kia Telluride the 2020 *MotorTrend* SUV of the Year. The 2021 winner, the ruggedly cool Land Rover Defender, is a more than worthy torch bearer and now joins the Telluride as a once and future king.

Although the Calipers have been passed to the Defender, the Telluride is still tops in its segment. Unsuccessfully competing alongside the Defender for this year's honors was the 2021 Toyota Highlander. The Highlander not only fell short of winning our annual award, but it also fell short of dethroning the Telluride as the top three-row SUV.

Don't take my word for it. Head over to our newly launched Buyer's Guide and check out the rankings. Unsurprisingly, the Telluride leads the three-row SUV pack with a score of 8.4/10. The Telluride handily beats its main competitors, with only one other SUV, the luxurious Lincoln Navigator, matching the Kia's score.

Again, none of this surprises me. After lending the Telluride to a co-worker with two small children, I recently reunited with the SUV after almost two months apart. With more than 18,000 miles on the odometer, many of those spent serving special duty as a photography support vehicle as well as a people mover, the Telluride feels as solid as ever. I'm constantly and pleasantly surprised by how quiet it is on the road, and even with 18K on the clock, there is an enjoyable lack of creaks and rattles.

I am also pleasantly surprised that the interior seems to be holding up to the abuse. Whether it is being used to haul camera equipment or young children, we tend to put large SUVs' interiors through a pretty tough use cycle, yet the seats, dash, and carpets are all holding up well.

One thing about being on top of the hill, there's never a lack of contenders trying to knock you off of it. The Highlander was no match for the Telluride, but with a segment as competitive as three-row SUVs, the Telluride is sure to have to defend its title again soon.



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2020 Mazda CX-30



Service life: 2 mo/2,445 mi
Average Fuel Econ 24.4 mpg

"We take our new 2020 Mazda CX-30 AWD to the test track to see how it performs." Christian Seabaugh

Avg CO2 0.80 lb/mi **Energy cons** 140 kWh/100 mi
Unresolved problems None **Maintenance cost** \$0
Normal wear cost \$0 **Base price** \$30,700 **As tested** \$31,625
EPA City/Hwy/Comb Fuel Econ 25/32/27 mpg

The pandemic makes it hard to get to know a new car. I'm sure in some parallel universe our new long-term Mazda CX-30 Premium AWD was handed over by a smiling car porter, smelling of new car, and driven each and every day to work and on errands. Instead, the reality is that our CX-30 was delivered by a masked man, smelled of rubbing alcohol, and, because the CX-30 is too large for my bedroom-to-the-kitchen morning commute, it's spent most workdays sitting idle in my driveway. To right that wrong, our CX-30 and I hit the road a few weeks back to get better acquainted at our test track.

You wouldn't expect a small subcompact SUV to be a barn-stormer, and, well, our 2020 CX-30 isn't. Powered by a 2.5-liter naturally aspirated I-4 making 186 hp and 186 lb-ft of torque, the CX-30 feels slower than its horsepower and torque numbers would suggest, largely thanks to a six-speed automatic that lacks the polish and decisive nature found in other Mazda transmissions. Without much low-end torque on tap, the CX-30 spent much of the highway drive out to the test track hunting through gears as I attempted to keep up with the fast-moving traffic. The CX-30's tidy dimensions and quick steering at least helped make it easier to keep momentum up when skirting around the occasional Prius or big rig.



Once at the test track and with our test gear hooked up, our new CX-30 AWD was competitive with the segment. It accelerated from 0 to 60 mph in 7.9 seconds and through the quarter mile in 16.1 seconds at 87.6 mph, making it a tenth of a second slower than the new-for-2021 Subaru Crosstrek Sport but quicker than the standard Crosstrek. It's also a bit slower than the 2021 Kia Seltos when equipped with a turbocharger, which will run from 0 to 60 mph in 7.4 seconds. Our CX-30 makes up some ground against that Crosstrek Sport on the figure eight, besting its 27.9-second lap by 0.1 but averaging 0.01 less g at 0.59. The Seltos laps our figure eight in 27.4 seconds at 0.63 g.

It's worth mentioning a more powerful turbocharged CX-30 is coming for the 2021 model year.

Although it's fairly midpack when it comes to test numbers, as I (unsuccessfully) pointed out to many math teachers over the years, numbers aren't everything. Now acquainted, I look forward to seeing how our No. 3 ranked subcompact SUV (as of press time) acquits itself out on the open road.



2020 Toyota Supra



Service life: 7 mo/5,640 mi
Average Fuel Econ: 25.2 mpg

"We're finally back on the road—and the track." Chris Walton

Avg CO2 0.77 lb/mi **Energy cons** 135 kWh/100 mi
Unresolved problems None **Maintenance cost** \$0
Normal wear cost \$0 **Base price** \$54,945 **As tested** \$56,565
EPA City/Hwy/Comb Fuel Econ 24/31/26 mpg



As travel restrictions lifted, we hit the road in our 2020 Toyota Supra, and we've added thousands of city and highway miles since the first update. As a result, our once-empty-road fuel economy (27.1 mpg average) is now more representative of real-world driving at 25.2 mpg. The EPA estimates 26 combined, so we're close. A couple long drives that nearly drained the tank proved the Supra can be quite miserly, returning 30 to 31 mpg.

Supra at the Track Not only are we driving more, but we also had an opportunity to run to our test facility to see how this 3.0 Premium measures up against two Launch Editions we tested in 2019. There's no difference in hardware—only a 21-pound weight difference—so we didn't expect a difference in performance. We were right: identical 0–60 times (3.9 seconds), the same quarter-mile times (12.5 seconds), and trap speeds were all within a half mph of one another. The three are separated by 7 feet braking from 60 mph, with ours in the middle at 103 feet. Lateral acceleration on the skidpad was a dead heat with all three posting an average of 1.01 g. On our "racetrack in a bottle" figure-eight test, they were separated by 0.4 second, ours bringing up the rear with a 24.3-second lap.

Supra Testing Notes During the quarter-mile acceleration runs, the test driver commented, "It really doesn't matter if traction control is on or off; there's a just-right amount of wheelspin regardless. Launch control does the same thing, as well. Very consistent, but it can feel a little dicey until the shift to second gear. Sounds great as it upshifts at redline." Regarding the braking test, he said, "Brakes (and tires) like a little heat as the distances grew shorter. Firm pedal, very little dive, and no squirm to speak of. Highly controlled, even from 100 mph. In order: 106, 106, 103, 104 feet." For sports cars, we do at least one stop from 100 mph to ascertain a theoretical 0–100–0 mph time. Our Supra earned a highly respectable 13.9-second time.

All things considered, the Supra is living up to its lineage, convoluted as it may be with this generation.



2020 Mercedes-Benz GLE 450



Service life: 3 mo/3,680 mi
Average Fuel Econ 19.3 mpg

"Forget about all the technical stuff. The Mercedes-Benz GLE 450 is gorgeous." Jonny Lieberman

Avg CO2 1.01 lb/mi **Energy cons** 177 kWh/100 mi
Unresolved problems None **Maintenance cost** \$0
Normal wear cost \$0 **Base price** \$62,745 **As tested** \$89,385
EPA City/Hwy/Comb Fuel Econ 19/24/21 mpg

Several months in, this 362-hp I-6 is still plenty sufficient, but I'd still prefer the 483-hp twin-turbo V-8.



UPDATES



Did not see this coming, but man do I like the way our Mercedes-Benz GLE 450 long-term looks. It's just handsome. Sure, a two-box yet jellybeanish SUV is an inherently generic, bland shape, but Mercedes has figured out a way to make it pop. This notion fully crystallized in my head when we were looping our 2021 SUV of the Year finalists out of the parking lot of our HQ. There, bathed in the morning California sun, sat my Lunar Blue sorta off-roader, lording it over all the less attractive people movers. I figure now's a good time to break down the GLE's design.

Mercedes' design head honcho Gorden Wagener calls his stamp on the brand's design language "Sensual Purity." Artistic types are pretty bad writers. Don't believe me? Spend some time reading the names and descriptions of paintings the next time you visit a gallery—and no, this silly phrase does not sound better in German ("sinnliche Reinheit"). I think what Wagener's trying to get across is that vehicles from his team have curvaceous, unbroken forms with a minimum of linework and bling.

This is especially apparent when gazing at the side of the GLE. The strong character or A-line runs smartly from above the front light cluster to the top of the taillight. It looks like an archer is just starting to pull back on a bow. The line's a bit of tensed muscle, a taught spring. It also apes the shape found on other Mercedes products, from the CLA to the GLS to the S-Class. I think this flourish works better on the SUVs than on the sedans because when combined with fender flares for fatter tires, the combo yields a visual solidity that makes the GLE look butcher and tougher than, say, an

X5 or Porsche Cayenne. It's not a hard and fast rule, but you generally want your SUV to look a bit rough and ready.

From the rear, the hips swell out so dramatically that it's almost like the rest of the GLE is sitting on a plinth. Your eyes interpret this as foundational, architectural, structural. Plus, having a wide, stable base just so happens to increase a vehicle's tumblehome (a ship-building term that simply means the degree to which the roof is narrower than the beltline). We tend to prefer the looks of vehicles with more tumblehome (Lamborghini Countach) than less (van).

Another cool visual trick the GLE pulls off concerns its ride height. Our GLE 450 has the optional E-ABC suspension, a

fast-acting hydraulic damper setup that can raise and lower the SUV. There's a less expensive air spring suspension option, as well. Inside the feature-rich yet complex MBUX infotainment system, you'll find a setting to "Lower Vehicle When Parked." Meaning that when the GLE is parked, the E-ABC drops down to a lower ride height (not the lowest—there's a Load setting that moves things even closer to the ground).

There's some sort of golden-ratio, brain-trickery reason for the following visual cue: We think cars with roofs twice as high as the tires look better. By lowering itself a few inches, our GLE 450 and its huge, 21-inch wheels suddenly looks better. Tricking the eye, that's the basis of magic. A great shade of blue helps, too.

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OUR RAV4 EXUDED A CERTAIN CHARM THAT HARKENS BACK TO THE ERA OF TRADITIONAL BODY-ON-FRAME SUVs.

Verdict: 2019 Toyota RAV4



"After one year, did the Toyota SUV live up to its reputation for reliability?"
Kelly Lin

Base price \$29,945 As tested \$31,509

Service life: 13 mo/17,906 mi
Avg Econ/CO2 26.9 mpg/0.72 lb/mi

As America's best-selling SUV, it doesn't get any more bread-and-butter than the Toyota RAV4. Toyota sold more than 448,000 copies in the U.S. last year, far surpassing sales of the Honda CR-V and other rivals. We knew it wouldn't be the most exciting vehicle to grace the *MotorTrend* garage, but we had high expectations for our year with Toyota's small SUV. Would its competency match its popularity? It wouldn't be an easy feat.

Our RAV4 exuded a certain charm when it arrived at our headquarters in El Segundo, California. It showed up on our doorstep with an enigmatic Lunar Rock paint color. Is it blue, green, or gray? We'll never be quite sure. Where other small crossovers have comically rounded

SPECS Option Convenience package (\$1,295: 8-way power driver's seat w/ lumbar support; heated front seats; power liftgate), carpet mat package (\$269)
Problem areas None **Maintenance cost** \$56.95 (2- inspection; oil change)
Normal wear Cost \$0 **3-year residual value*** \$22,400 (71%) **Recalls** None

*IntelliChoice data; assumes 42,000 miles at the end of three years



features, the RAV4 has a chiseled face and a boxier body that harkens back to the era of traditional body-on-frame SUVs.

Step inside, and you'll find a simple yet stylish interior. We immediately noticed the fun geometric pattern on the seats, storage cubbies, and other areas. Initially, we thought the slanted door handles were edgy but not very practical. It didn't take long to get used to them, though. It was a little harder adjusting to the doors not opening as wide as we'd like. This design

made it a little inconvenient to load and unload cargo into the back seat. Perhaps of bigger significance is the SUV's comfortable upholstery, which held up well over a year hauling friends, family, and weekend gear. Even now, the seats look mostly new.

Priced at \$31,509, our Toyota RAV4 came with all the things we needed. It's an XLE, the volume model. One step up from the base LE trim, it's nothing fancy. The bread and butter of the bread and butter gets standard features including a 7.0-inch touchscreen with Apple CarPlay, six speakers, a power moonroof, keyless entry and ignition, and dual-zone automatic climate control. We felt safe with the RAV4's generous list of standard safety features. Our model also has the XLE Convenience package, bringing heated front seats, an eight-way power adjustable driver's seat with lumbar support, and an adjustable power tailgate.

Notably missing from the list of goodies is Android Auto. In fact, this feature is not available on any 2019 RAV4. Toyota remedied this on later models, but it was a huge inconvenience during our time with the SUV. Not being able to select our favorite playlists from the central touchscreen made it difficult



After a year of use, the interior looks pretty much brand new. It held up well and shows no signs of wear, and we still appreciate the patterned seats and ample storage.

Our RAV4's 7.0-inch touchscreen lacked Android Auto. Toyota has added this on later models, but it was annoying on our 2019 RAV4.



to settle in for long drives. It's particularly frustrating because other cars I drove throughout the year have the capability.

Now we'll switch gears from the biggest inconvenience to what was by far our biggest joy during our time with the RAV4. Over the course of a year and 17,969 miles, we didn't spend a dime on maintenance.

The same can't be said for rivals we've tested. Our long-term 2018 Honda CR-V LX FWD, with 17,737 miles on the odometer, ended up costing \$286.32 for three service visits. And our 2017 CR-V Touring AWD burned through \$418 during two service visits and 20,447 miles. We put a substantial 28,307 miles on our long-term 2017 Mazda CX-5 AWD Grand Touring and spent \$340.57 on four visits to the dealership. Finally, our long-term 2017 Kia Sportage EX AWD with 21,033 miles ate up \$223.41 over the course of three services.

Granted, the pandemic had us driving less than usual, especially during the springtime. But we definitely appreciated Toyota's maintenance program. Toyota vehicles come with free routine maintenance for two years or 25,000 miles, whichever comes first.

Although the RAV4 wins major points for its low costs and reliability, it isn't our favorite small SUV to drive. As we've said in the past, the ride isn't as controlled as it is on rivals like the CR-V. This became obvious during multiple trips down

the unforgiving roads of the downtown L.A. area. Discerning drivers may also complain it thrashes and groans a bit too much during acceleration, unlike the smoother-operating RAV4 Hybrid and RAV4 Prime.

What the RAV4 lacks in engine refinement it makes up for in agility in U-turns and city parking. We were even more impressed with its real-world fuel economy. Our Real MPG results came out to 24.2/39.1/29.2 mpg city/highway/combined, outperforming the EPA rating of 25/33/28 mpg. It proved more efficient than our long-term 2017 Honda CR-V, which scored 21.9/34.2/26.1 mpg in our real-world tests.

Keep in mind that a few things have changed since the 2019 model year. In addition to Android Auto being standard on all trims, the RAV4 LE and XLE now come standard with SiriusXM with a three-month trial. A power driver's seat is now standard on the XLE—that would have been a nice upgrade from the manual seats on our tester.

Sure, the RAV4 isn't as spacious or as smooth to drive as some of its rivals. But if you never get behind the wheel of the CR-V, you wouldn't notice. Despite its shortcomings, we can see why many consumers are attracted to the RAV4. Low maintenance costs, excellent fuel economy, and strong safety features make this SUV a strong contender for buyers' money.



The Toyota RAV4 isn't without flaws, but most of its issues are things you won't notice unless you drive its competitors. Overall, it's a really solid SUV.

2019 Toyota RAV4 XLE AWD

DRIVETRAIN LAYOUT	Front-engine, AWD
ENGINE TYPE	I-4, alum block/head
VALVETRAIN	DOHC, 4 valves/cyl
DISPLACEMENT	151.8 cu in/2,487cc
COMPRESSION RATIO	13.0:1
POWER (SAE NET)	203 hp @ 6,600 rpm
TORQUE (SAE NET)	184 lb-ft @ 5,000 rpm
REDLINE	6,600 rpm
WEIGHT TO POWER	17.2 lb/hp
TRANSMISSION	8-speed automatic
AXLE/FINAL DRIVE RATIO	3.18:1/2.14:1
SUSPENSION, FRONT; REAR	Struts, coil springs, anti-roll bar; multilink, coil springs, anti-roll bar
STEERING RATIO	14.3:1
TURNS LOCK TO LOCK	2.7
BRAKES, F; R	12.0-in vented disc; 11.1-in disc, ABS
WHEELS	7.0 x 17-in cast aluminum
TIRES	225/65R17 102H (M+S) Firestone Destination LE2

DIMENSIONS	
WHEELBASE	105.9 in
TRACK, F/R	63.0/63.7 in
LENGTH X WIDTH X HEIGHT	180.9 x 73.4 x 66.9 in
GROUND CLEARANCE	8.4 in
APPROACH/DEPART ANGLE	19.0/21.0 deg
TURNING CIRCLE	36.1 ft
CURB WEIGHT	3,489 lb
WEIGHT DIST, F/R	58/42%
TOWING CAPACITY	1,500 lb
SEATING CAPACITY	5
HEADROOM, F/R	37.7/37.7 in
LEGROOM, F/R	41.0/37.8 in
SHOULDER ROOM, F/R	57.8/56.4 in
CARGO VOLUME BEHIND F/R	69.8/37.5 cu ft

TEST DATA	
ACCELERATION TO MPH	
0-30	2.8 sec
0-40	4.3
0-50	5.9
0-60	8.0
0-70	10.6
0-80	13.5
0-90	17.2
PASSING, 45-65 MPH	4.2
QUARTER MILE	16.2 sec @ 87.6 mph
BRAKING, 60-0 MPH	121 ft
LATERAL ACCELERATION	0.81 g (avg)
MT FIGURE EIGHT	27.6 sec @ 0.61 g (avg)
TOP-GEAR REVS @ 60 MPH	1,500 rpm

CONSUMER INFO	
BASE PRICE	\$29,945
PRICE AS TESTED	\$31,509
STABILITY/TRACTION CONTROL	Yes/Yes
AIRBAGS	8: Dual front, front side, f/r curtain, driver knee, front passenger thigh
BASIC WARRANTY	3 years/36,000 miles
POWERTRAIN WARRANTY	5 years/60,000 miles
ROADSIDE ASSISTANCE	2 years/25,000 miles
FUEL CAPACITY	14.5 gal
REAL MPG, CITY/HWY/COMB	24.2/39.1/29.2 mpg
EPA CITY/HWY/COMB ECON	25/33/28 mpg
ENERGY CONS, CITY/HWY	135/102 kWh/100 miles
CO2 EMISSIONS, COMB	0.69 lb/mile
RECOMMENDED FUEL	Unleaded regular

Angus MacKenzie

The Big Picture



Opposite Lockdown: Rediscovering the romance of the road

We hit the road the hour before dawn, the Aston Martin DB11 V8 limbering up nicely as we cruised toward the coast and EuroTunnel train that would take us under the English Channel.

Ahead, a nice, easy run through France, wafting along at a relaxed 85 mph on the quiet and beautifully maintained autoroutes, before jinking up and over the Jura Mountains and dropping into Switzerland and our overnight stop in Geneva. Tomorrow, we'd amble down through the Mont Blanc Tunnel and into Italy, picking up the pace in the Aosta Valley before skirting around Turin to reach our hotel in the heart of the fabled Langhe wine region.

We've always loved a road trip, Mrs. MacKenzie and I. But this one was special, I thought, as the DB11 loafed along at 100 mph in the bright Italian sunshine, the 4.0-liter twin-turbo V-8 growling happily at 2,200 rpm. After weeks of lockdown, it was wonderful to be back behind the wheel again, to watch the world unrolling through the windshield, to wonder what was around the next corner, over the next hill.

To rediscover the romance of the road.

We're back in lockdown as I write this, but during Europe's brief respite from the worst of the COVID-19 pandemic, we covered almost 8,000 miles across the continent, driving from London to jobs in Germany and Italy to avoid traveling by plane. Trips that would have been mundane commutes—taxi to the airport, shuffle through security, squeeze into an unforgiving seat with knees in your back, listen to the comedy safety briefing that stopped being funny 50 flights ago—became memorable adventures when taken by automobile.

You also learn things about a car when you pack 1,500 miles or more into a couple of days behind the wheel. The DB11 V8's eight-speed auto needs to be sharper in its response, and the brake tip-in on our car was a little sudden and inconsistent. But it's a genuinely impressive grand tourer with a good ride, supremely comfortable seats, and a trunk big enough to hold everything you need for five days on the road. Oh, and it averaged nearly 22 mpg for the whole trip.

By contrast, the 510-hp Mercedes-AMG C 63 S wagon we took from London to Dresden in eastern Germany was a rambunctious hand grenade. On the quieter stretches of the A4 autobahn, deep in what was once Communist East Germany, we cruised for miles at 130 mph or more, averaging—*averaging*—100 mph for the last 55 miles into Dresden despite a lengthy stretch of roadworks with a 50-mph limit.

You're a lot busier in the C 63 S than you are in the E 63 S wagon at those speeds, the smaller car feeling livelier, edgier, a little less planted through hyper-fast sweepers.



But I didn't want to hand it back to the Mercedes PR folks when we returned to London. There's something deeply engaging about a supercar that to most people looks like an ordinary grocery getter.

Our other long haulers included a Mercedes-Benz S 560e that effortlessly munched the miles to Stuttgart and back, its plug-in hybrid powertrain delivering better than 20 mpg even when cruising on the autobahn at 110 mph. Then there was a snarling Maserati Levante Gran Sport we took across the Alps to Modena, briskly zigzagging over passes where fragments of last winter's snow still lay in sheltered nooks and crannies. But it was the Porsche Cayenne Turbo S E-Hybrid Coupe that gave us one of the highlights of our travels, and not because of how this 670-hp SUV would insouciantly zoom past 130 mph on the autobahn.

In a weekend between events at Porsche and Mercedes, we drove to Rothenburg ob der Tauber, one of the best-preserved medieval towns in Germany. And there I parked the Cayenne under the very tree where, 34 years earlier, I had snapped a photo of a Peugeot 205 GTi. That little Peugeot had taken me on my very first road trip through Europe, a two-week, 3,000-mile jaunt through France, Italy, Austria, and Germany. As I stood there in the early-morning gloom, looking at the Porsche, the memories came flooding back.

It was good to be on the road again. ■

Real grand touring: A 1,620-mile run from London to Italy and back in the Aston Martin DB11 V8 revealed it to be a genuinely impressive grand tourer. Fast, but comfortable, too.

Time flies: 34 years separates these photos, taken under the same tree in the German town of Rothenburg ob der Tauber. The Peugeot 205 GTi took me on my first European road trip.



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